



MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY BATHINDA-151001 (PUNJAB), INDIA

(A State University Estb. by Govt. of Punjab vide Punjab Act No. 5 of 2015 and Approved u/s 2(f) & 12 (B) of UGC; Member AIU)

Department: **G.Z.S. SCHOOL OF ARCHITECTURE & PLANNING**
MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Design - I</u>	Subject Code: <u>BARC1-101</u>	Semester: <u>1ST</u>
Credit: <u>6</u>	L S T P <u>2 4 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Knowledge of basic form and elements of Architectural Design.	3	3	2	0	0	0	0	0	1	0	0	2	2	2	1
CO2	Understand Anthropometry and its application in design.	3	0	0	0	0	0	0	0	0	0	0	2	2	2	1
CO3	Distinguish between Architectural Form and Space	3	1	2	2	0	0	0	0	0	0	0	0	1	2	1
CO4	Employ learning's for design spaces which are up to single room.	3	2	3	0	0	0	0	0	1	0	0	0	2	3	1
CO5	Employ skills to enhance indoor aesthetics.	3	2	0	0	0	0	0	0	0	2	0	0	2	3	1
CO6	Knowledge about local level soft and hard landscape elements.	3	2	3	2	0	0	1	0	0	0	0	0	2	3	1

Enter Correction levels 1, 2 or 3 as defined below:

1. Slight (Low) - upto 30% 2. Moderate (Medium) –above 30% and upto 70% 3. Substantial (High) – above 70%



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COs, POs, PSOs Mapping

Subject: <u>Building Construction - I</u>	Subject Code: <u>BARC1-102</u>	Semester: <u>1ST</u>
Credit: <u>5</u>	L S T P <u>2 3 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the process of building construction from the very first step.	2	3	0	0	0	0	0	3	0	0	0	3	2	1	3
CO2	Understanding skills and equipment used in shaping them with the help of basic construction details.	2	3	0	0	1	0	0	0	3	0	3	3	1	2	2
CO3	Understanding masonry construction details	2	3	2	2	-	0	0	0	2	0	0	2	1	1	3
CO4	Understanding all the components of building construction.	3	2	0	0	2	0	0	0	0	0	0	3	3	1	2
CO5	Developing the understanding of the junction details in masonry.	2	2	0	0	0	2	1	2	0	0	2	0	1	2	3
CO6	Developing the knowledge of components of the brick masonry	2	2	0	0	0	0	2	0	0	0	2	0	1	1	1

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COs, POs, PSOs Mapping

Subject: <u>Architectural Drawing- I</u>	Subject Code: <u>BARC1-103</u>	Semester: <u>1ST</u>
Credit: <u>5</u>	L ST P <u>2 3 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Draft 2-D and 3-D objects.	3	1	1	0	0	0	0	0	0	0	0	2	2	1	1
CO2	Types of construction of plain and diagonal scales	3	3	2	0	0	0	0	0	0	0	0	2	1	1	1
CO3	Orthographic projections of points	3	2	2	0	0	0	0	0	0	0	0	1	1	1	1
CO4	Isometric views of simple and complex forms.	3	2	0	0	0	0	0	0	0	0	0	2	2	1	1
CO5	Design development of basic forms	2	1	0	0	0	0	0	0	0	0	0	1	1	1	1
CO6	To develop critical and analytic thinking.	1	0	0	0	0	0	0	0	0	0	0	2	1	1	1

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COs, POs, PSOs Mapping

Subject: <u>History of Architecture - I</u>	Subject Code: <u>BARC1-104</u>	Semester: <u>1ST</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the basic chronology of historical development in the field of Architecture and civilization.	2	0	0	0	0	0	0	0	0	1	0	1	1	1	2
CO2	Acquainting themselves with the key historical buildings and their characteristic features.	2	1	1	0	0	0	0	1	0	1	0	1	1	1	2
CO3	Developing understanding of Architecture through different historical phases.	2	1	1	0	0	0	0	1	0	1	0	1	1	1	1
CO4	Developing understanding of Architecture in Greek Civilization	2	1	1	0	0	0	0	1	0	1	0	1	2	1	1
CO5	Developing understanding of Architecture during Roman period	2	1	1	0	0	0	0	1	0	1	0	1	2	1	2
CO6	Developing understanding of Dravidian Architecture through different phases	2	1	1	0	0	0	0	1	0	1	0	1	1	1	2

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COs, POs, PSOs Mapping

Subject: <u>Visual Communication - I</u>	Subject Code: <u>BARC1-105</u>	Semester: <u>1ST</u>
Credit: <u>3</u>	L S T P <u>2 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	CO 1: The art of using the potential of pencil	3	2	0	0	0	0	0	0	0	0	0	3	3	2	1
CO2	Colour as a tool of graphic communication.	1	2	3	0	0	0	0	0	0	0	0	3	2	1	1
CO3	To learn of scale elements	0	3	2	0	0	0	0	0	0	0	0	3	2	1	1
CO4	To learn various colour schemes, tints and shades.	3	2	1	0	0	0	0	0	0	0	0	3	2	1	1
CO5	To learn rendering of textures of different building materials in pencil.	3	0	2	0	0	0	0	0	0	0	0	1	2	1	1
CO6	To learn free hand still life sketching in pencil	2	0	1	0	0	0	0	0	0	0	0	0	2	1	1

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COs, POs, PSOs Mapping

Subject: <u>Architectural Communication - I</u>	Subject Code: <u>BARC1-106</u>	Semester: <u>1ST</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe.	0	0	0	1	0	0	0	1	0	2	0	2	3	3	1
CO2	Architectural reports and texts on their own and shall be able to communicate in a professional manner.	2	0	0	0	0	0	0	1	2	0	0	2	2	2	1
CO3	The qualities of good writing.	0	0	0	0	0	0	0	0	1	3	0	3	2	2	1
CO4	Building up and expansion of vocabulary active use of Architectural vocabulary	2	0	0	1	0	0	0	0	0	3	0	3	2	1	1
CO5	Presentation of various site reports, case studies and methods of holding meetings.	2	0	2	2	0	0	0	0	2	2	0	2	2	2	1
CO6	Preparation of press note of Architectural reports and events.	2	2	-	2	0	0	0	0	-	2	0	2	2	2	1

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Subject: <u>Building Science & Technology - I</u>	Subject Code: <u>BARC1-107</u>	Semester: <u>1ST</u>
Credit: <u>1</u>	L S T P <u>1 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the various building materials used in construction of a building with study of their Constituents, Properties.	1	1	2	0	0	0	0	0	2	0	1	2	2	1	1
CO2	Understanding the Types, Uses & Market rates of building materials.	1	2	0	0	0	0	0	0	0	1	2	1	1	2	1
CO3	Understanding the details of Brick masonry & Stone masonry	2	1	0	1	0	0	0	2	0	0	1	2	3	1	1
CO4	Understanding the construction details of locally available materials	1	2	1	1	0	0	0	0	0	0	0	1	1	1	2
CO5	Understanding of relevance of Building science in Architecture	1	2	0	0	0	0	0	1	0	0	1	3	1	2	3
CO6	Knowledge about the natural calamities and its effects on the stability of buildings	2	0	0	0	0	0	1	1	1	0	2	3	1	1	1

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COs, POs, PSOs Mapping

Subject: <u>Model Making - I</u>	Subject Code: <u>BARC1-108</u>	Semester: <u>1ST</u>
Credit: <u>1</u>	L S T P <u>0 0 0 2</u>	Duration: <u>NO EXAM</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand basic carpentry techniques.	2	1	0	0	0	0	0	0	0	0	0	2	3	2	2
CO2	Knowledge of Joinery techniques and various model making techniques.	2	1	0	0	0	0	0	0	0	0	0	2	2	2	2
CO3	Understand methods using different materials.	2	1	0	0	0	0	0	0	0	0	0	2	2	3	1
CO4	Tools used in carpentry.	2	1	0	0	0	0	0	0	0	0	0	2	1	1	1
CO5	Model making techniques using different materials.	2	1	0	0	0	0	0	0	0	0	0	3	2	2	2
CO6	Methods of Preparations of Model	2	1	0	0	0	0	0	0	0	1	0	2	2	2	2

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COs, POs, PSOs Mapping

Subject: <u>Architectural Design - II</u>	Subject Code: <u>BARC1-209</u>	Semester: <u>2ND</u>
Credit: <u>6</u>	L S T P <u>2 4 0 0</u>	Duration: <u>6 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Enable to distinguish constraints in the Architectural design of a small scale building with reference to function, form and site.	3	2	0	1	0	0	0	0	0	0	0	0	2	3	1
CO2	Employ learning's to relate the function and physical form with the surrounding site and environment.	3	1	0	2	0	0	0	0	0	0	0	0	2	3	1
CO3	Design space up to small residential and commercial spaces.	3	2	3	3	1	0	0	0	0	0	0	0	2	3	1
CO4	Knowledge to relate site level vehicular movement with the built mass.	3	2	1	0	0	0	0	0	0	0	0	0	2	3	1
CO5	Understand about different type of parking lots and their design.	2	1	3	0	0	0	0	0	0	0	0	0	2	3	1
CO6	Understand the role of resident's behavior and expectations towards space design.	2	0	0	3	0	0	0	0	0	3	0	0	2	3	1

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COs, POs, PSOs Mapping

Subject: <u>Building Construction - II</u>	Subject Code: <u>BARC1-210</u>	Semester: <u>2ND</u>
Credit: <u>5</u>	L S T P <u>2 3 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Detailing of various components of structure	2	3	0	0	1	0	0	0	0	0	0	3	3	2	1
CO2	Knowing about the detailing doors and windows	2	2	2	0	1	0	0	0	1	0	0	2	1	1	1
CO3	Knowing about the detailing types of roofs and floors.	2	2	2	0	1	0	0	0	0	0	1	2	1	2	2
CO4	Knowledge about the sequence of activities for execution of the building	3	3	0	0	1	0	0	0	0	0	0	2	1	1	2
CO5	Understanding the types of the door and their implementations	2	2	0	0	1	0	0	2	0	0	0	2	1	2	1
CO6	Knowledge of the sectional details of various components	2	3	2	0	-	0	0	0	0	0	0	3	1	1	3

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COs, POs, PSOs Mapping

Subject: <u>Architectural Drawing- II</u>	Subject Code: <u>BARC1-211</u>	Semester: <u>2ND</u>
Credit: <u>5</u>	L ST P <u>2 3 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Draw perspectives of various forms	3	0	2	0	0	0	0	0	0	0	0	1	2	3	1
CO2	Sciography in plans and elevations.	3	0	1	0	0	0	0	0	0	0	0	1	3	3	1
CO3	Visualize and convert his/her thoughts and ideas of design into 3-D forms.	2	0	2	0	0	0	0	0	0	0	0	2	2	2	1
CO4	Construction of interior perspectives	3	2	2	0	0	0	0	0	0	0	0	3	3	2	1
CO5	Basic understanding of Orthographic projections.	2	0	2	0	0	0	0	0	0	0	0	2	2	2	1
CO6	Draw isometric views.	3	1	3	0	0	0	0	0	0	0	0	3	2	2	1

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Subject: <u>Visual Communication - II</u>	Subject Code: <u>BARC1-212</u>	Semester: <u>2ND</u>
Credit: <u>3</u>	L S T P <u>2 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	The fundamentals of sketches and perspectives.	3	0	3	0	0	0	0	0	0	0	0	3	3	2	1
CO2	Writing styles in calligraphy.	0	0	1	0	0	0	0	0	0	0	0	1	3	2	1
CO3	Rendering of perspective views in all colour mediums.	2	0	2	0	0	0	0	0	0	0	0	2	2	2	1
CO4	Sketching and rendering of various scenes.	3	0	1	0	0	0	0	0	0	0	0	3	2	2	1
CO5	Outdoor free hand sketching of trees, shrubs, simple buildings, human figures.	3	0	-	0	0	0	0	0	0	0	0	3	1	2	1
CO6	Use of various colouring mediums i.e., pencil colours, oil pastels, crayons and water colours etc.	3	0	2	0	0	0	0	0	0	0	0	3	2	2	1

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Subject: <u>Theory of Design</u>	Subject Code: <u>BARC1-213</u>	Semester: <u>2ND</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the relationship between configuration of form and space.	3	0	1	2	0	0	0	0	0	0	0	0	1	3	1
CO2	Knowledge to appreciate the quality of architectural spaces.	3	0	0	3	0	0	0	0	0	1	0	2	2	3	1
CO3	Employ skills to articulate building forms and surrounding spaces.	3	0	3	0	0	0	1	0	0	2	0	0	2	3	1
CO4	Design for the provision of opening, circulation spaces within the built mass.	3	2	3	0	1	0	3	0	0	0	0	0	2	3	1
CO5	Distinguish between regular and irregular forms through collision and articulation	3	3	3	0	1	0	0	0	2	0	0	0	2	3	1
CO6	Understand the visual properties of forms.	3	1	0	3	0	0	0	0	0	2	0	0	2	3	1

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Subject: <u>Structure Design - I</u>	Subject Code: <u>BARC1-214</u>	Semester: <u>2ND</u>
Credit:<u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the concept of stress and strain	2	2	3	2	0	0	0	0	0	0	0	1	1	2	1
CO2	Understand the concept of shear stress and bending moment and determine it for various types of beams.	2	2	3	2	0	0	0	0	0	0	0	1	2	2	3
CO3	An ability to get confidence to analyze and design masonry structure.	1	1	3	0	0	0	0	0	0	0	0	1	2	3	3
CO4	An ability to understand and analyze the design concept.	2	1	3	2	0	0	0	0	0	0	0	0	2	3	3
CO5	An ability to apply theoretical knowledge to solve practical problems.	1	0	3	0	0	0	0	0	0	0	0	0	2	3	2
CO6	Understanding about the strength and behavior of masonry structures	2	0	3	0	0	0	0	0	0	0	0	1	2	2	3

Enter Correction levels 1, 2 or 3 as defined below:

1. Slight (Low) - upto 30% 2. Moderate (Medium) –above 30% and upto 70%

3. Substantial (High) – above 70%



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Department: **G.Z.S. SCHOOL OF ARCHITECTURE & PLANNING**
MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building science and technology - II</u>	Subject Code: <u>BARC1-215</u>	Semester: <u>2ND</u>
Credit: <u>1</u>	L S T P <u>1 0 0 0</u>	Duration: <u>3Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the basic behavior of soil w.r.t, foundations.	0	1	0	2	0	0	1	0	0	3	0	0	1	1	2
CO2	Knowledge about of various finishes to be applied to building surface.	2	2	0	0	1	0	0	0	0	2	0	0	3	1	1
CO3	Understanding of Materials and finishes available in the market under different trade names to study their properties, uses etc.	2	1	0	1	0	0	0	0	0	0	2	1	3	1	2
CO4	Understanding of the market price of different materials.	0	1	0	1	2	0	0	0	0	0	0	2	1	1	1
CO5	Understanding of characteristics of soil.	0	1	0	2	0	1	0	0	0	0	2	0	1	2	2
CO6	Knowledge of all classification of surface finishes.	1	2	0	1	2	0	0	0	0	0	0	2	2	2	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Structure System -I</u>	Subject Code: <u>BARC1-216</u>	Semester: <u>2ND</u>
Credit: <u>1</u>	L S T P <u>1 0 0 0</u>	Duration: <u>NO EXAM</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	The predominantly pictorial nature of an Architect's language.	2	3	0	0	0	0	0	0	0	0	0	2	1	1	1
CO2	The physical-mechanical essence of the subject matter.	2	3	0	0	0	0	0	0	0	0	0	2	1	1	1
CO3	The orientation of all Architectural efforts to Form and Space.	3	2	1	0	0	0	0	0	0	0	0	2	1	1	3
CO4	Learn various load distribution systems	1	2	3	0	0	0	0	0	0	0	0	0	1	1	2
CO5	Learn various structure Systems	1	2	0	0	0	0	2	1	0	0	0	1	1	1	2

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Design - III</u>	Subject Code: <u>BARC1-317</u>	Semester: <u>3RD</u>
Credit: <u>6</u>	L S T P <u>2 4 0 0</u>	Duration: <u>12 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Distinguish and appreciate the constraints of the site in the evolution of design for small building projects.	2	1	3	2	0	0	0	0	0	0	0	0	2	3	1
CO2	Knowledge to handle the flow of masses in buildings like primary school, dispensary, convenience shopping etc.	3	2	1	2	0	0	0	0	0	0	0	0	2	3	1
CO3	Employ barrier free design for buildings and adopt Universal Design.	3	1	0	2	1	3	1	0	0	0	0	3	3	3	2
CO4	Understand climate responsive architecture.	3	2	2	2	3	2	3	2	0	0	0	3	3	2	2
CO5	Design of spaces which are under the preview of urban regulatory controls.	3	3	2	0	1	0	0	0	0	0	0	0	3	2	1
CO6	Understand the role of design development stages in the final outcome.	2	1	3	0	0	0	0	1	0	0	0	0	1	3	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building Construction - III</u>	Subject Code: <u>BARC1-318</u>	Semester: <u>3RD</u>
Credit: <u>5</u>	L S T P <u>2 3 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the process of RCC construction.	1	2	0	1	0	0	0	2	0	0	0	3	1	1	2
CO2	Understanding the components of a building, skills and equipment used in shaping them with the help of basic construction details.	2	2	1	1	0	0	0	0	0	0	2	0	2	1	2
CO3	Understanding the details of the R.C.C. construction.	1	2	1	1	1	0	0	0	0	0	0	3	1	3	1
CO4	Detailing out various R.C.C construction details.	2	1	1	2	2	0	0	2	0	0	0	2	1	1	2
CO5	Knowledge of the concept of retaining walls	1	1	0	0	0	0	1	0	0	0	2	2	1	1	1
CO6	Understanding the various types of Foundations in R.C.C. and their applications.	1	2	0	2	0	0	0	0	0	0	0	2	1	2	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>History of Architecture- II</u>	Subject Code: <u>BARC1-320</u>	Semester: <u>3RD</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding basic chronology of historical development in the field of Architecture & civilization.	2	0	0	0	0	0	0	0	0	1	0	1	1	1	2
CO2	Acquainting themselves with the key historical buildings of various periods of Architectural history & their characteristic features.	2	1	1	0	0	0	0	1	0	1	0	1	1	1	2
CO3	Developing understanding of sketching & understanding of historical buildings, historical analyses & measured drawings.	2	1	1	0	0	0	0	1	0	1	0	1	1	1	1
CO4	Developing understanding of Early Christian , Byzantine, Romanesque & Gothic Architecture	2	1	1	0	0	0	0	1	0	1	0	1	2	1	1
CO5	Developing understanding of Renaissance Architecture of Italy.	2	1	1	0	0	0	0	1	0	1	0	1	2	1	2
CO6	Developing understanding of Islamic Architecture	2	1	1	0	0	0	0	1	0	1	0	1	1	1	2

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Structure Design - II</u>	Subject Code: <u>BARC1-321</u>	Semester: <u>3RD</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Learn the basic knowledge of concrete structure	3	0	0	0	0	0	0	0	0	0	0	1	1	1	2
CO2	Identify analyze and compute the design load on typical concrete structures.	2	0	2	0	0	0	0	0	0	0	0	0	2	2	2
CO3	Identify the different failure modes of columns, beam and slab along their design strength.	2	1	3	0	0	0	0	0	0	0	0	0	3	3	3
CO4	Design and select the most suitable section and size for column, beam and slab using modern methods, tools and techniques.	2	2	3	0	2	0	0	0	0	0	0	0	3	3	3
CO5	Analyze the data & give solution of the problems with sustainable development	2	3	1	0	0	0	2	0	0	0	0	0	3	3	3
CO6	Apply relevant Indian Standard Codal provisions to ensure safety & serviceability of structural concrete elements for design developments & learning.	2	0	3	0	0	0	0	0	0	0	0	2	3	3	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Surveying & Levelling - I</u>	Subject Code: <u>BARC1-322</u>	Semester: <u>3RD</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Carry out preliminary surveying in the fields before start of construction	2	1	1	1	0	0	0	0	0	0	0	0	1	2	3
CO2	Taking accurate measurements, field booking, plotting and adjustment of traverse use various conventional instruments involved in surveying with respect to utility.	0	2	0	0	2	0	0	0	0	0	0	0	1	2	2
CO3	Precisely plan a survey for application such as height of the building undertake measurement and plotting	0	1	2	1	2	1	0	0	0	0	0	0	2	1	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building science and technology - III</u>	Subject Code: <u>BARC1-323</u>	Semester: <u>3RD</u>
Credit:<u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Application of the concepts of climatology in architectural design projects.	0	2	0	1	0	0	1	0	0	1	0	3	1	2	1
CO2	Application of the design principles so as to achieve energy conservation in buildings through passive techniques.	0	2	0	2	0	0	0	0	0	0	0	2	1	1	3
CO3	Application of the concepts of Bio-climatic chart	0	1	0	2	0	0	0	0	1	1	0	2	2	1	1
CO4	Application of the concepts of architecture into the design.	1	1	0	2	1	0	2	0	0	0	0	1	2	2	3
CO5	Understanding the concept of Thermal Comfort	1	1	0	2	0	0	0	0	0	0	0	2	1	1	2
CO6	Knowledge about the flow of heat through buildings	1	2	0	1	1	0	1	0	0	0	1	0	1	3	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Soft skill Development</u>	Subject Code: <u>BARC1-216</u>	Semester: <u>3RD</u>
Credit: <u>2</u>	L S T P <u>0 0 0 0</u>	Duration: <u>NO EXAM</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Auto Cad as a Computer Aided Drafting Technique.	1	1	2	0	0	0	0	0	0	0	0	2	3	2	1
CO2	Basic commands like copy, paste, stretch, offset, move fillet, extend, trim and other 2D commands.	1	2	2	0	0	0	0	0	0	0	0	2	3	2	1
CO3	Drawing the basic Plans, Sections, and Elevations.	2	0	2	0	0	0	0	0	0	0	0	2	3	2	1
CO4	Auto Cad and Units.	0	0	0	0	1	0	0	0	0	0	0	1	2	2	1
CO5	Advanced rendering Photoshop and in other 2D Software.	0	0	0	0	2	0	0	0	0	0	0	2	2	1	1
CO6	3-D Modelling of Multiple Building in a Single Site, Camera View of the Buildings.	2	0	2	0	2	0	0	0	0	0	0	3	2	1	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Design - IV</u>	Subject Code: <u>BARC1-425</u>	Semester: <u>4TH</u>
Credit: <u>6</u>	L S T P <u>2 3 0 0</u>	Duration: <u>12 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the significance of contextual factors in architecture through design of climate responsive architecture.	3	2	0	3	2	0	2	0	0	0	0	0	1	3	2
CO2	Knowledge about vernacular and rural architecture spread across north India.	2	1	0	3	0	0	1	1	2	0	0	3	1	1	3
CO3	Knowledge through educational tour to historical sites, one shall have an in depth knowledge of regional architecture.	2	1	0	3	0	0	1	0	3	0	0	2	1	1	2
CO4	Understand about the influence of social and cultural environment on architectural design.	2	0	0	3	0	0	2	1	0	2	0	3	2	2	2
CO5	Employ learning's from detailed study of a vernacular settlement in documentation process.	2	0	0	3	0	0	1	0	2	1	0	3	1	2	3
CO6	Distinguish between different physical planning and other geomorphic factors.	0	1	0	3	0	0	2	0	0	0	0	0	1	1	2

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building Construction - IV</u>	Subject Code: <u>BARC1-426</u>	Semester: <u>4TH</u>
Credit: <u>5</u>	L S T P <u>2 2 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the Timber components of a building.	1	2	0	0	2	0	0	0	0	1	0	1	1	2	1
CO2	Understanding the traditional/Contemporary construction methods of a single storied building in timber.	2	1	1	0	1	0	0	0	0	2	0	2	1	1	3
CO3	Understanding the various timber roof structures.	2	2	0	0	2	0	0	0	0	0	3	3	2	1	1
CO4	Knowledge of the details of the various in timber construction components	1	2	2	0	2	0	0	0	0	1	0	0	2	2	1
CO5	Understanding the implementations of sliding and folding timber doors	1	1	0	0	0	0	0	1	0	0	2	2	2	1	1
CO6	Having the knowledge about the usage of cladding with Timber and Timber products in Interior and Exterior	2	2	0	0	1	0	0	0	1	0	1	1	1	2	3

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building Science and Technology - IV</u>	Subject Code: <u>BARC1-427</u>	Semester: <u>4TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the importance and role of water supply.	1	2	0	0	2	0	0	0	0	2	0	2	1	1	1
CO2	Understanding the importance sanitation services in Buildings.	0	2	0	2	1	0	0	0	0	0	0	3	1	2	1
CO3	Understanding the solid waste management system in buildings.	1	1	1	1	2	0	0	0	0	2	0	1	1	2	3
CO4	Understanding the infrastructure of the building	1	1	0	2	0	0	0	0	0	2	2	2	2	1	1
CO5	Understanding the water requirements depending on the building type	2	2	0	0	1	0	0	0	0	0	0	3	1	2	3
CO6	Knowledge about the various types of water distribution system	1	2	2	0	1	0	0	0	0	0	0	3	3	3	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Visual Communication - IV</u>	Subject Code: <u>BARC1-428</u>	Semester: <u>4TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>No Exam.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Draw perspectives of small design projects.	3	1	2	0	0	0	0	0	2	0	0	3	2	3	2
CO2	Draft and render his/her small design projects into 3-D forms.	1	0	1	0	0	0	0	0	0	0	0	1	3	3	2
CO3	Show Sciography through Computer Aided Techniques.	1	0	1	0	1	0	0	0	0	0	0	1	2	2	2
CO4	V-ray and Any other Software.	1	0	0	0	2	0	0	0	0	0	0	2	3	2	3
CO5	3-D Modelling on 3-D Max.	2	0	0	0	2	0	0	0	0	0	0	2	2	2	2
CO6	3-D Modelling on Google Sketch Up.	2	0	0	0	2	0	0	0	0	0	0	2	3	1	1

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Department: **G.Z.S. SCHOOL OF ARCHITECTURE & PLANNING**
MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Structure Design - III</u>	Subject Code: <u>BARC1-429</u>	Semester: <u>4TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Learn the basic knowledge of steel structure	3	1	2	0	0	0	0	0	2	0	0	3	2	3	2
CO2	Identify analyze and compute the design load on typical steel structures.	1	0	1	0	0	0	0	0	0	0	0	1	3	3	2
CO3	Identify the different failure modes of connections, tension members, compression members, beams & compute their design strength.	1	0	1	0	1	0	0	0	0	0	0	1	2	2	2
CO4	Design & select the most suitable section and size for tension, compression members & beams using modern methods, tools & techniques.	1	0	0	0	2	0	0	0	0	0	0	2	3	2	3
CO5	Analyze the data & give solution of the problems with sustainable development	2	0	0	0	2	0	0	0	0	0	0	2	2	2	2
CO6	Apply relevant Indian Standard Codal provisions to ensure safety & serviceability of structural steel elements for design developments and learning.	2	0	0	0	2	0	0	0	0	0	0	2	3	1	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Design Philosophies - I</u>	Subject Code: <u>BARC1-430</u>	Semester: <u>4TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the basic concepts of designing the buildings done in 20th-Century Architecture.	3	1	2	0	0	0	0	0	0	0	0	3	3	3	2
CO2	Developing conceptual and perceptual skills of students to appreciate the basic principles	0	2	2	0	0	0	0	0	0	0	0	2	2	2	1
CO3	Developing philosophy of design used in 20th century movements and assesses their contributions.	2	0	2	0	0	0	0	0	0	0	0	2	2	2	1
CO4	Understanding the basic concepts of Chicago School of Architecture, Art Nouveau Architecture & New York School of Skyscraper Architecture	2	0	0	0	0	0	0	0	0	0	0	2	2	2	2
CO5	Understanding the basic concepts of Early Modernist Architecture to International Style of Modern Architecture of Architecture	3	2	1	0	0	0	0	0	0	0	0	3	3	2	3
CO6	Understanding the basic concepts of Great masters	3	1	2	0	0	0	0	0	0	0	0	3	3	2	1

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COs, POs, PSOs Mapping

Subject: <u>Structure System - II</u>	Subject Code: <u>BARC1-431</u>	Semester: <u>4TH</u>
Credit: <u>1</u>	L S T P <u>1 0 0 0</u>	Duration: <u>No Exam.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Emphasis shall be laid on learning by doing by making of 3-D models to give the students an idea of different spatial experience.	2	3	3	0	0	0	0	0	2	0	0	2	1	1	3
CO2	The predominantly pictorial nature of an Architect's language.	2	3	0	0	0	0	0	0	0	0	0	2	1	1	1
CO3	The physical-mechanical essence of the subject matter.	2	3	0	0	0	0	0	0	0	0	0	2	1	1	1
CO4	The orientation of all Architectural efforts to Form and Space.	3	2	1	0	0	0	0	0	0	0	0	2	1	1	3
CO5	Learn various forms of structure system	1	0	2	0	0	0	2	0	0	0	0	2	1	1	2
CO6	Learn various type of temporary structure systems which one is durable and constructed in less time	1	0	2	0	0	0	2	0	0	0	0	2	1	2	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Educational Tour -I</u>	Subject Code: <u>BARC1-432</u>	Semester: <u>4TH</u>
Credit: <u>1</u>	L S T P <u>0 0 0 0</u>	Duration: <u>No Exam.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the traditional construction techniques used in forts, palaces, religious structures in North India	3	2	3	3	0	0	2	0	0	0	0	0	1	1	3
CO2	Understand the planning concepts of traditional Indian cities	3	2	3	2	0	0	0	0	0	0	0	0	1	1	3
CO3	Awareness of various design principles as employed in historical monuments	3	0	2	0	0	0	3	0	0	0	0	0	1	1	2
CO4	Socially responsible	0	0	0	0	0	2	0	3	0	0	0	1	1	2	1
CO5	Learn team work.	0	0	0	0	0	0	0	0	3	2	0	1	1	3	1
CO6	Learn cultural values of the visited area.	0	0	0	0	0	0	0	0	0	0	0	3	1	1	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Design - V</u>	Subject Code: <u>BARC1-533</u>	Semester: <u>5TH</u>
Credit: <u>6</u>	L S T P <u>2 3 0 2</u>	Duration: <u>18 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand and appreciate the concept of Structure and services in the Architectural design of a medium scale building with reference to function, form and site.	3	3	0	2	0	0	0	0	0	0	0	0	2	3	2
CO2	Design basic building services in a multi storied residential and commercial building.	2	3	0	0	0	0	0	0	1	0	1	0	1	3	2
CO3	Employ computational tools and techniques for the design of multi storied buildings.	2	2	0	0	3	0	0	0	1	0	0	0	2	3	2
CO4	Knowledge about site planning and also be able to understand the possible impact of multi storied building at urban level.	2	2	3	3	3	1	2	1	1	0	0	1	1	3	2
CO5	Distinguish between the space designs requirements for the differently abled.	3	3	0	1	0	2	0	2	0	0	0	3	2	3	3
CO6	Understand the role of behavioral aspects in space planning for user's satisfaction.	2	0	0	3	0	0	0	3	0	0	0	1	2	3	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building Construction - V</u>	Subject Code: <u>BARC1-534</u>	Semester: <u>5TH</u>
Credit: <u>5</u>	L S T P <u>2 2 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Helping students to draw the construction details of structural Steel.	2	2	2	0	1	0	0	0	1	1	0	3	1	1	2
CO2	Knowledge about Aluminum and its uses in various building elements including industrial buildings	2	1	0	0	1	0	0	1	0	0	0	2	1	1	3
CO3	Understanding the Construction of various types of doors in Steel & Aluminum	1	1	1	1	2	0	0	0	0	0	2	2	1	2	1
CO4	Understanding the construction of windows in Steel & Aluminum	2	1	0	0	2	0	0	0	0	0	0	2	2	1	2
CO5	Understanding the details of mezzanine floors.	1	0	1	0	0	0	0	0	0	0	0	1	2	1	1
CO6	Understanding the implementations of light weight partitions	1	1	0	0	0	0	1	0	0	0	0	2	1	2	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>On site construction Training</u>	Subject Code: <u>BARC1-535</u>	Semester: <u>5TH</u>
Credit: <u>3</u>	L S T P <u>0 0 0 0</u>	Duration: <u>No Exam.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand process of planning, progress and management of construction process.	1	3	1	0	0	0	3	0	0	0	3	3	3	2	1
CO2	Learn about the building materials and technologies used in construction	0	0	0	0	3	0	0	0	0	0	0	3	3	2	2
CO3	Learn the role of various team members in construction.	0	0	0	0	0	3	0	0	3	1	0	2	2	3	1
CO4	Understand how to solve problems on the construction site.	0	3	0	2	0	0	0	3	0	0	0	3	2	3	1
CO5	Become socially responsible.	0	0	0	0	0	0	0	3	0	0	0	2	2	2	1
CO6	Enhance and learn how to communicate with clients and learn local vocabulary	0	0	0	0	0	0	0	1	2	3	0	2	2	1	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Landscape Architecture</u>	Subject Code: <u>BARC1-536</u>	Semester: <u>5TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the role & importance of landscape in Architecture	1	0	1	0	0	0	2	0	0	0	0	0	2	1	2
CO2	Understanding the elements of Landscape and their role.	1	0	1	0	0	0	2	0	0	0	0	1	1	1	1
CO3	Identifying plant characteristics of various types of Trees, Shrubs, Cacti Bushes and Creepers	1	0		0	0	0	2	0	0	0	0	1	2	1	2
CO4	Understanding Historical development, Design Principles, salient features & elements of various garden styles	1	0	2	0	0	0	1	0	0	0	0	1	2	1	2
CO5	Studying and analyzing site in relation to landscape design	1	1	2	0	0	0	1	0	0	0	0	1	2	1	2

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building science and Technology - V</u>	Subject Code: <u>BARC1-537</u>	Semester: <u>5TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the importance and role of Electrical Layouts.	0	1	1	2	1	0	0	0	0	0	0	2	1	1	3
CO2	Understanding the importance of Fire Safety in the building	0	2	2	0	1	0	0	0	0	0	0	1	1	2	1
CO3	Understanding the importance of Acoustics in Buildings.	1	1	3	2	1	0	0	0	0	0	0	3	1	1	2
CO4	Understanding the importance of services in the building.	2	1	0	1	1	0	0	0	0	0	0	1	1	1	1
CO5	Detailing out the various layout plans of the building	1	1	0	1	2	0	0	0	0	0	0	2	2	1	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: History of Architecture - III	Subject Code: <u>BARC1-538</u>	Semester: <u>5TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding basic chronology of historical development as per the of syllabus.	2	0	0	0	0	0	0	0	0	0	0	2	3	3	2
CO2	Acquainting themselves with the key historical buildings of various periods of Architectural history and their characteristic features.	3	0	2	0	0	0	0	0	0	0	0	3	3	1	1
CO3	Understanding the importance of the development of world Architecture from Neo classical style up to Industrial revolution	3	0	1	0	0	0	0	0	0	0	0	3	2	2	2
CO4	Understanding the importance of the development of Rajput Architecture in India.	2	0	0	0	0	0	0	0	0	0	0	3	2	2	1
CO5	Understanding the importance of the development of Sikh Architecture in India	2	0	0	0	0	0	0	0	0	0	0	2	2	1	1
CO6	Understanding the importance of the development of Colonial Architecture in India	2	0	0	0	0	0	0	0	0	0	0	2	2	1	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Tall Buildings</u>	Subject Code: <u>BARC1-539</u>	Semester: <u>5TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the need of High rise buildings in Urban context & the issues related with tall buildings	0	0	0	0	0	1	1	0	0	0	0	1	2	1	2
CO2	Understanding the planning, design, structure, and construction in high rise buildings.	1	0	2	0	0	0	0	0	1	0	0	1	1	1	2
CO3	Studying and understanding High rise buildings as per the norms and Standards prescribed in NBC/ Bye-Laws	0	0	2	0	0	1	1	0	0	1	0	1	1	2	1
CO4	Understanding the concepts of Energy Efficiency & sustainability in tall buildings.	0	0	0	0	0	1	2	0	0	0	0	1	2	1	2
CO5	Understanding the mechanical & other building services of High rise buildings	0	0	2	0	2	0	1	0	0	0	0	1	3	1	3
CO6	Understanding the circulation & fire safety in tall buildings	0	0	1	1	1	0	1	0	0	0	0	1	3	1	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Design Philosophies - II</u>	Subject Code: <u>BARC1-540</u>	Semester: <u>5TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the approach of Master architects towards design of buildings in India.	2	3	3	0	0	0	0	0	2	0	0	2	1	1	3
CO2	Understanding about the various aspects of Architectural design as employed by Master Architects	2	3	0	0	0	0	0	0	0	0	0	2	1	1	1
CO3	Understanding about buildings designed by Master Architects	2	3	0	0	0	0	0	0	0	0	0	2	1	1	1
CO4	Understanding the Post-Independence influence of Modern Masters in India	3	2	1	0	0	0	0	0	0	0	0	2	1	1	3
CO5	Understanding the Indian Modern Architects- philosophy and works in India & abroad	1	0	2	0	0	0	2	0	0	0	0	2	1	1	2
CO6	Understanding the philosophy of Architects who incorporated Regionalism, Technological advancements & Cost Effectiveness in Indian Architecture	1	0	2	0	0	0	2	0	0	0	0	2	1	2	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Design - VI</u>	Subject Code: <u>BARC1-641</u>	Semester: <u>6TH</u>
Credit: <u>6</u>	L S T P <u>2 3 0 2</u>	Duration: <u>18 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	One shall be able to understand and appreciate the constraints of combining varying structural spans in complex building typologies and interweaving them with structure, site and architectural form and expressions.	3	3	0	0	2	0	0	0	1	0	2	0	2	3	1
CO2	Understand and appreciate the interrelationship between form and scale	3	1	2	0	0	0	0	0	0	0	0	0	2	3	1
CO3	Employ natural elements like Light, Sound, & Shadow, water, landscape in the design projects related to art, craft, performing art, museum, & exhibition spaces.	3	2	0	3	3	0	0	0	0	3	0	1	2	3	3
CO4	Design the concept of mixed use spaces.	3	2	3	2	0	0	1	0	3	0	0	0	2	3	1
CO5	Distinguish between the projects located in urban and non-urban areas.	3	2	0	3	0	0	2	0	0	0	0	1	2	2	1
CO6	Knowledge of digital techniques for assessment and redefining of design.	2	2	0	0	3	0	0	0	0	0	0	0	2	3	3

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Department: **G.Z.S. SCHOOL OF ARCHITECTURE & PLANNING**
MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building Construction - VI</u>	Subject Code: <u>BARC1-642</u>	Semester: <u>6TH</u>
Credit: <u>5</u>	L S T P <u>2 2 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Knowledge about the drafting techniques of construction drawings	1	1	0	2	1	0	0	0	0	0	0	3	1	2	1
CO2	Knowledge about the Joinery Details	2	1	1	0	0	0	0	0	0	0	0	2	2	1	1
CO3	Knowledge about the plumbing details	1	1	1	0	0	0	0	0	0	0	0	2	1	2	1
CO4	Knowledge about the electrical details	2	1	1	0	0	0	0	0	0	0	0	2	1	1	3
CO5	Understanding of working drawings.	1	2	2	0	0	0	0	0	0	0	2	1	1	2	3
CO6	Understanding of Extension, Expansion and Construction Joints, their details and treatment	1	1	0	2	0	0	2	0	0	0	0	1	2	1	1

Enter Correction levels 1, 2 or 3 as defined below:

1. Slight (Low) - upto 30% 2. Moderate (Medium) –above 30% and upto70% 3. Substantial (High) – above 70%



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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building science and Technology - VI</u>	Subject Code: <u>BARC1-643</u>	Semester: <u>6TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the use and application of various advanced building services for the design assignments.	0	2	0	0	2	1	1	0	0	0	1	0	1	1	3
CO2	Understanding the Heating and Air-conditioning Systems	1	2	0	1	1	1	0	1	0	1	1	0	2	2	2
CO3	Understanding the Mechanical Transportation Systems	0	2	0	1	1	1	0	0	2	2	0	0	1	1	1
CO4	Understanding the concepts of comfort cooling systems & their working	0	2	0	2	0	2	0	0	1	0	1	2	1	1	1
CO5	Knowledge of Natural and Artificial Ventilation	1	2	0	1	1	0	0	0	0	1	0	1	3	1	1
CO6	Understanding the concept of intelligent buildings	1	1	1	1	0	0	0	0	0	1	0	1	1	1	2

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Interior Design</u>	Subject Code: <u>BARC1-644</u>	Semester: <u>6TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding and appreciating the discipline of Interior design & its relation with Architectural Design.	2	0	2	0	0	0	0	0	0	0	0	1	2	1	2
CO2	Understanding principles of Interior Design and their application in the context of buildings	1	0	2	0	0	0	0	0	0	1	0	1	2	1	2
CO3	Understanding various color schemes, lighting, textures, etc. in Interior design	1	0	0	0	1	0	0	0	0	0	0	1	2	1	2
CO4	Understanding the materials & techniques used in Interior design	1	0	0	0	1	0	0	0	0	0	0	1	3	1	2
CO5	Understanding the modern trends in the field of Interior design	1	0	2	0	0	0	0	0	0	1	0	1	3	1	2
CO6	Designing the interior of small & medium sized projects	1	0	2	0	0	0	0	0	2	0	0	1	3	1	2

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Estimating & Costing</u>	Subject Code: <u>BARC1-645</u>	Semester: <u>6TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the process of preparing estimates	1	2	0	0	1	1	0	0	1	1	1	1	2	3	1
CO2	Understanding types of Estimates and their calculations	1	2	0	1	2	1	0	0	2	1	2	2	2	3	1
CO3	Preparing Analysis of rates of material and labor required for various items of work.	1	3	0	1	1	1	0	0	2	1	1	2	2	3	1
CO4	Understanding Tenders, their type, Process, Scrutiny and Selection of Contractors, Pre-Qualification and Registration of Contractor.	1	2	0	1	1	1	0	0	1	1	0	2	2	2	1
CO5	Understanding and calculation of Valuation	1	2	0	1	1	1	0	0	1	1	0	1	2	2	1
CO6	Preparing specifications for various items of work	1	2	0	1	1	1	0	0	2	1	0	1	2	2	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Design Philosophies - III</u>	Subject Code: <u>BARC1-646</u>	Semester: <u>6TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the approach of eminent architects towards designing of buildings.	3	0	2	0	2	0	3	0	0	0	0	2	1	1	3
CO2	Understanding Structural Expressionism (High-Tech Architecture)	3	0	2	1	3	0	3	0	0	0	0	0	1	1	3
CO3	Understanding theories of Deconstructivism	3	0	2	1	3	0	2	0	0	0	0	0	1	1	3
CO4	Understanding of Theoretical issues in contemporary architecture	3	0	2	1	3	0	3	0	0	0	0	0	1	1	3
CO5	Understanding theories of Neo Futurism	3	0	2	1	3	0	3	0	0	0	0	0	1	1	3
CO6	Understanding the theories of Program, Function and Philosophies used in Contemporary architecture	3	0	2	1	3	0	3	0	0	0	0	0	1	1	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architecture Legislation</u>	Subject Code: <u>BARC1-647</u>	Semester: <u>6TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the Legal Framework in Architectural Practice.	2	0	0	0	0	3	0	2	0	0	0	0	3	3	1
CO2	Knowledge to appreciate architectural design approaches adopted by master architects & planners.	3	0	0	3	0	0	0	0	0	2	0	0	2	3	1
CO3	Understand the importance of Preservation & Conservation of Heritage Buildings & their regulations.	3	0	0	2	0	3	0	0	0	0	0	0	2	2	1
CO4	Knowledge of nation level building norms & standards through National Building Code, Indian Standard Codes, Local Building Bye-Laws, Disability Act etc.	2	0	0	2	0	3	0	0	0	0	0	3	3	3	1
CO5	Distinguish between building norms of various Urban Local Bodies.	2	0	0	3	0	2	0	0	0	0	0	0	2	2	1
CO6	Design of development controls.	3	3	0	3	0	2	2	2	3	0	0	0	2	2	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Design - VII</u>	Subject Code: <u>BARC1-748</u>	Semester: <u>7TH</u>
Credit: <u>8</u>	L S T P <u>2 5 0 2</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand and appreciate the with complex functional, circulation and safety requirements.	3	2	0	3	0	0	0	1	2	0	0	1	3	3	2
CO2	Design public building while incorporating the requirements being set for Universal design.	3	3	0	0	0	0	0	2	2	0	0	0	3	3	2
CO3	Distinguish the impact of public building on urban surroundings and vice versa.	3	2	3	3	2	0	2	0	1	0	0	0	2	2	1
CO4	Knowledge about the services required by public buildings which may include Fire safety, Solid Waste management, Water supply and sanitation, Air Conditioning, Gas Supplies etc.	3	2	0	3	3	1	0	0	0	0	2	3	3	3	2
CO5	Employ the outcome from library and Proto type studies for project designing.	2	0	0	3	0	0	0	0	2	1	0	0	2	2	1
CO6	Design physical models for volumetric studies.	2	0	0	3	0	0	0	0	3	2	0	0	1	3	2

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building Construction - VII</u>	Subject Code: <u>BARC1-748</u>	Semester: <u>7TH</u>
Credit: <u>5</u>	L S T P <u>2 5 0 2</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Knowledge about the latest trends/ methods of construction.	1	1	2	0	0	0	0	0	0	0	0	3	2	1	1
CO2	Knowledge about the Prefabricated and precast building construction and details.	2	0	0	1	0	0	0	0	2	2	2	2	1	1	3
CO3	Knowledge about the Tubular construction system and details.	1	2	1	2	1	0	0	0	0	1	0	2	2	2	2
CO4	Knowledge about the drafting techniques of the latest methods of construction	1	1	1	1	2	0	0	0	0	2	0	1	2	1	1
CO5	Understanding of modular construction	1	1	0	0	0	0	0	0	0	0	2	2	3	1	2
CO6	Knowledge about the structural & non-structural cladding	2	2	0	0	0	0	2	0	0	2	1	1	1	2	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Housing</u>	Subject Code: <u>BARC1-750</u>	Semester: <u>7TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding various aspects, issues and considerations affecting housing problems & their solutions for India	0	0	0	0	0	2	0	0	1	0	0	1	2	1	2
CO2	Understanding the housing need, shortage & cost components of Housing	0	0	0	0	0	2	0	0	0	1	0	1	1	1	2
CO3	Understanding Housing policies in India & the role of financial institutions.	0	0	0	0	0	1	0	0	1	0	0	1	1	2	1
CO4	Understanding the affordable housing & various typologies related to housing in Indian context.	0	0	0	0	0	2	1	0	0	0	1	1	2	1	2
CO5	Enable to carry out need assessment of targeted housing stock in urban areas & strategies for alternative housing typologies in development of urban areas.	0	0	0	0	0	2	0	0	0	0	0	1	3	1	3
CO6	Understanding housing surveys & analyze the survey	0	0	0	0	0	1	0	0	2	0	0	1	3	1	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Construction Management</u>	Subject Code: <u>BARC1-751</u>	Semester: <u>7TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Handling and managing the project efficiently	0	1	0	0	2	0	0	0	0	2	2	2	2	1	1
CO2	Understanding the Construction stages, Construction team, Equipment Management	1	2	0	2	0	1	0	0	0	0	1	2	2	2	3
CO3	Understanding the Quality and Safety- Objectives, Issues, Organizing for Quality and Safety	0	1	0	0	0	1	0	1	0	1	2	2	1	1	3
CO4	Understanding the costing of the project at various stages	0	2	0	2	2	0	0	0	0	2	1	1	2	1	2
CO5	Understanding the role of an architect in the society	1	1	0	2	2	0	0	0	0	3	2	3	1	2	1
CO6	Understanding the importance of project management and team work	0	1	0	-	2	0	0	0	0	1	3	3	2	1	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Town Planning</u>	Subject Code: <u>BARC1-752</u>	Semester: <u>7TH</u>
Credit: <u>2</u>	L S T P <u>2 0 0 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the importance and role of Town Planning in the Historical and Modern Context.	1	0	1	0	0	1	0	0	0	0	0	1	2	1	2
CO2	Understanding Human Settlements - Classification based on Road Pattern, Form, space, use & Population.	1	0	1	0	0	1	0	0	0	0	0	1	1	1	2
CO3	Understanding Planning Concepts- Garden City, Linear City, Industrial City and Sustainable City, Compact city and TOD	1	0	1	0	0	1	2	0	0	0	0	1	1	2	1
CO4	Evaluating the pattern of growth in Indian cities & their problems	1	0	1	1	0	1	0	0	2	1	0	1	2	1	2
CO5	Understanding new approaches of town planning such as smart cities, green cities, & development plans	1	0	1	0	0	1	2	0	0	1	0	1	3	1	3
CO6	Understanding the role of development authorities in the growth of cities	1	0	1	0	0	1	2	0	0	1	1	1	3	1	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Educational Tour - II</u>	Subject Code: <u>BARC1-753</u>	Semester: <u>7TH</u>
Credit: <u>1</u>	L S T P <u>0 0 0 0</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the construction techniques used in historic and modern structures in India	3	0	0	2	0	0	0	0	1	3	0	0	2	1	1
CO2	Understand the urban design of Indian cities	3	0	0	2	0	0	0	0	0	0	0	0	1	1	3
CO3	Awareness of various modern buildings designed by contemporary architects of India.	1	1	3	2	0	0	0	0	0	0	0	0	1	1	2
CO4	Understand development pattern of the city.	2	0	2	2	0	0	3	0	0	0	0	0	1	1	3
CO5	Understand the form and the skyline of the city.	2	0	2	1	0	0	1	0	0	0	0	0	1	1	3
CO6	Understand the different land marks and nodes of the visited city.	2	0	2	1	0	0	2	0	0	0	0	0	1	1	3

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Personality Development</u>	Subject Code: <u>BARC1-754</u>	Semester: <u>7TH</u>
Credit: <u>1</u>	L S T P <u>1 0 0 0</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the Legal Framework in Architectural Practice.	2	0	0	0	0	3	0	2	0	0	0	0	3	3	1
CO2	Knowledge to appreciate architectural design approaches adopted by master architects & planners.	3	0	0	3	0	0	0	0	0	2	0	0	2	3	1
CO3	Understand the importance of Preservation & Conservation of Heritage Buildings & their regulations.	3	0	0	2	0	3	0	0	0	0	0	0	2	2	1
CO4	Knowledge of nation level building norms & standards through National Building Code, Indian Standard Codes, Local Building Bye-Laws, Disability Act etc.	2	0	0	2	0	3	0	0	0	0	0	3	3	3	1
CO5	Distinguish between building norms of various Urban Local Bodies.	2	0	0	3	0	2	0	0	0	0	0	0	2	2	1
CO6	Design of development controls.	3	3	0	3	0	2	2	2	3	0	0	0	2	2	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Lighting & Illumination</u>	Subject Code: <u>BARC1-761</u>	Semester: <u>7TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the principles of visual performance and photometric terms	1	0	1	0	0	0	1	0	0	0	0	1	2	1	2
CO2	Understanding Color Specification with Munsel & CIE system along with additive & subtractive colour mixing.	1	0	1	0	0	0	0	0	0	0	0	1	1	1	2
CO3	Understanding of lighting principles and different electric lamps along with their properties	1	0	2	0	0	0	1	0	0	0	0	1	1	2	1
CO4	Understanding luminaries' properties and illumination schemes.	1	0	2	0	0	0	1	0	0	0	0	1	2	1	2
CO5	Calculating illumination due to daylight using daylight factor, day lighting practices and integration with electric lighting	1	0	1	2	0	0	1	0	0	0	0	1	3	1	3
CO6	Calculating quantitative lighting design of a simple space manually using lumen method	1	0	1	2	1	0	0	0	0	0	1	1	3	1	3

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Disaster Management for Buildings</u>	Subject Code: <u>BARC1-762</u>	Semester: <u>7TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the various Pre & Post-disaster design & management measures to make buildings safe against Earthquakes.	1	2	0	1	0	2	0	1	0	2	1	1	1	1	2
CO2	Understanding the General requirements, principles and measures for making safe building design against Fire, Floods, Cyclones, Landslide, Tsunami Avalanche, etc.	1	1	0	2	0	0	2	1	0	1	1	0	1	1	2
CO3	Understanding the Special construction techniques to make buildings safe against earthquakes	1	1	1	1	0	0	0	2	0	2	0	0	2	3	1
CO4	Understanding the concept of disaster mitigation	0	1	0	1	2	0	0	2	0	0	0	0	1	1	2
CO5	Understanding the role of architects in creating safe buildings	1	1	1	0	0	0	1	0	2	0	2	2	1	2	3
CO6	Understanding the various Pre & Post-disaster design & management measures to make buildings safe against Earthquakes.	1	2	0	1	0	2	0	1	0	2	1	1	1	1	2

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Practical training of 24 weeks duration</u>	Subject Code: <u>BARC1-855</u>	Semester: <u>8TH</u>
Credit: <u>20</u>	L S T P <u>0 0 0 0</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the practical approach towards designing of buildings.	3	0	3	0	0	0	2	0	0	0	0	3	3	2	1
CO2	Understand the site management & office management	1	3	0	0	0	0	0	0	0	0	3	0	2	3	1
CO3	Get opportunity to design & execute buildings on site.	1	2	3	2	0	0	2	0	0	0	0	0	3	2	1
CO4	Understand various construction details that apply on site.	2	0	0	0	3	0	0	0	0	0	0	3	3	2	1
CO5	Learn team work and become socially responsible	0	0	0	0	0	3	0	3	3	0	0	2	2	3	1
CO6	Enhance and learn how to communicate with clients and learn local vocabulary	0	0	0	0	0	2	0	0	2	3	0	2	2	3	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Design - VIII</u>	Subject Code: <u>BARC1-956</u>	Semester: <u>9TH</u>
Credit: <u>8</u>	L S T P <u>2 4 0 4</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand & appreciate the concept of planning & other allied services required in the large scale building.	3	3	0	2	0	0	1	0	0	0	2	0	1	2	2
CO2	Design an existing urban environment to identify its typical characteristics and problems.	2	3	0	3	2	0	1	0	0	0	0	0	1	2	1
CO3	Knowledge to relate human behavior with the environment and design spaces accordingly.	3	0	0	3	0	0	3	1	0	0	0	2	2	3	3
CO4	Distinguish various types of circulation spaces which are required to segregate different set of spaces, which are part of a single building/ complex.	2	3	3	3	0	0	0	0	1	0	0	0	1	3	1
CO5	Employ the learning's from historical context of the designated site	3	0	0	3	0	0	1	0	0	0	0	2	2	2	2
CO6	Employ the concepts urban development and ecologically sensitive control.	2	1	2	3	3	0	3	1	3	0	0	0	1	2	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: Research Methods & Dissertation Writing	Subject Code: <u>BARC1-957</u>	Semester: <u>9TH</u>
Credit: <u>3</u>	L S T P <u>1 10 2</u>	Duration: <u>3Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Analyze and write reports on fine arts literature	1	0	0	2	0	0	0	0	0	2	0	2	3	3	1
CO2	Appraisal / evaluation, write reports on architectural projects.	1	0	0	0	0	0	0	0	0	1	0	1	2	2	1
CO3	Techniques of report and review writing, their application to architectural publications.	2	0	0	0	0	0	0	0	0	2	0	2	2	2	1
CO4	Research methods, evaluation of results and its application.	0	0	0	1	0	0	0	0	0	1	0	1	2	2	2
CO5	Analyze and evaluate architectural projects etc. and also understand architectural research with special emphasis on India.	2	0	0	0	0	0	0	0	0	2	0	2	3	2	2
CO6	Architectural Research on various projects.	2	0	0	2	0	0	0	0	0	0	0	2	3	3	2

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COs, POs, PSOs Mapping

Subject: <u>Urban Design</u>	Subject Code: <u>BARC1-958</u>	Semester: <u>9TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the importance & role of Urban Design in the Historical & Modern Context & be able to interpret the urban forms of the past & present	1	0	2	0	0	0	0	0	0	0	0	1	2	2	2
CO2	Understanding the elements of Urban design & determinants of Urban Form	1	0	2	0	0	0	0	0	0	0	0	1	2	2	2
CO3	Understanding the Urban Spaces typology & design principles	1	0	2	0	0	0	0	0	0	0	0	1	2	2	1
CO4	Understanding the Urban development controls & Legal framework	1	0	1	0	0	0	0	0	0	2	0	1	2	1	2
CO5	Understanding the process of Landscape design & its application in Architectural Design solutions through examples from historical and contemporary gardens	0	0	1	0	0	0	2	0	0	0	0	1	3	1	3
CO6	Understanding landscape design in terms of elements of landscape such as earth, rock, water & vegetation, in the context of their environmental aspects & concerns.	0	0	0	0	0	0	0	0	0	0	0	0	3	1	3

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Landscape Design</u>	Subject Code: <u>BARC1-963</u>	Semester: <u>9TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding contour/mapping and various methods of documentation of physical features, topography and landscape elements.	1	0	1	0	0	1	1	0	0	0	0	1	2	2	2
CO2	Understanding & analyzing site in relation to landscape design in order to take site planning decisions	1	0	1	0	0	1	1	0	0	0	0	1	2	2	2
CO3	Understanding contour/mapping and various methods of documentation of physical features, topography and landscape elements.	0	0	1	1	0	1	1	0	0	0	0	1	2	2	1
CO4	Understanding and analyzing site in relation to landscape design in order to take site planning decisions	1	0	1	0	0	0	1	0	0	0	0	1	2	1	2
CO5	Understanding environmental impact assessment and Natural environmental policies of India	0	0	0	0	0	1	2	0	0	1	0	1	3	1	3
CO6	Enable to design and detail landscape projects	2	0	2	0	0	0	1	0	0	0	0	1	3	1	3

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Building Maintenance</u>	Subject Code: <u>BARC1-964</u>	Semester: <u>9TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the Role and importance of the building maintenance in built environment.	1	1	0	0	0	0	2	1	0	0	0	3	1	2	1
CO2	Understanding the Diagnostic Techniques	0	2	0	2	0	0	0	1	1	1	0	0	2	2	3
CO3	Understanding the Prevention measures/Defects due to poor design and construction	1	1	1	1	0	2	0	2	0	0	2	0	1	1	1
CO4	Knowledge about the various defects in Buildings	0	2	0	2	0	0	0	1	0	1	0	0	2	2	1
CO5	Understanding of treatment methods/Repair materials	1	2	0	0	0	0	0	2	0	0	0	2	1	1	2
CO6	Knowledge about the maintenance of the building both economic and social significance	1	1	1	0	0	0	0	2	0	0	0	0	3	1	2

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Sikh Architecture</u>	Subject Code: <u>BARC1-966</u>	Semester: <u>9TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the development of Sikh architecture in the form of Gurdwaras, Forts and Palaces in various regions of Punjab.	2	0	0	0	0	0	0	0	1	1	1	1	1	0	2
CO2	Understanding Contemporary examples of Sikh Gurdwaras built in late 20th and 21st Century	2	1	1	0	0	0	0	1	1	1	1	1	1	0	2
CO3	Understanding Evolution of Sacred Sikh Architecture – Salient features of a Gurdwara varieties of Arches, Domes, Capitals and other building elements	2	1	1	0	0	0	0	1	1	1	1	1	1	0	1
CO4	Understanding of Sikh Architecture in Historical, Religious, social and environmental context	2	1	1	0	0	0	0	1	1	1	1	1	1	0	2
CO5	Understanding the design of Khalsa Heritage Memorial complex at Anandpur Sahib	2	1	1	0	0	0	0	1	1	1	1	1	1	0	1
CO6	Understanding the Landscape elements developed under Sikh rulers in prominent cities like Amritsar, Patiala, Nabha, Kapurthala, Gobindgarh, Anandpur Sahib	2	1	1	0	0	0	0	1	1	1	1	1	1	0	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architecture Model Making</u>	Subject Code: <u>BARC1-967</u>	Semester: <u>9TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Prepare models of Architectural projects	2	1	2	0	2	0	0	0	0	0	0	2	3	3	1
CO2	Develop their own preferred technique for the model making	2	0	0	0	2	0	0	0	0	0	0	2	2	2	2
CO3	Develop quick study models for developing a design idea.	1	0	0	0	1	0	0	0	0	0	0	1	2	2	2
CO4	Develop detailed models of buildings	1	0	2	0	0	0	0	0	0	0	0	2	2	3	1
CO5	Do Presentation models of single building or group of buildings.	1	0	0	0	0	0	0	0	2	0	0	2	2	2	1
CO6	Learn different materials used in models.	2	0	0	0	0	0	0	0	0	0	0	2	1	1	1

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Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Vernacular Architecture</u>	Subject Code: <u>BARC1-968</u>	Semester: <u>9TH</u>
Credit: <u>2</u>	L S T P <u>1 0 0 2</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding basic vernacular settlement development as per the syllabus.	3	0	2	2	0	0	3	2	0	0	0	2	1	1	3
CO2	Acquainting themselves with the various vernacular settlements in Plains & Hills of Northern India.	3	0	3	3	1	0	3	2	1	0	0	2	1	1	3
CO3	Understanding the Settlement pattern, building material/ technology and socio-economic structure in a village of Punjab, Study & analysis of spatial organization	3	0	3	3	0	0	3	1	1	1	0	1	1	1	3
CO4	Understanding the Approach and works of architects Laurie Baker, Hassan Fathy	3	0	2	3	1	0	3	1	2	1	0	2	1	1	3
CO5	Understanding vernacular settlements in different parts of India as well as abroad.	3	0	2	3	0	0	3	0	1	1	0	1	1	1	3
CO6	Understanding the Role & importance of social, cultural, political, economic, climatic, technological factors	3	0	2	3	1	0	3	2	0	0	0	1	1	1	3

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COs, POs, PSOs Mapping

Subject: <u>Architectural Design - IX</u>	Subject Code: <u>BARC1-X59</u>	Semester: <u>10TH</u>
Credit: <u>15</u>	L S T P <u>10 0 0 10</u>	Duration: <u>No Exam</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Design projects of any scale independently.	3	3	3	3	2	1	1	1	2	0	1	0	3	3	1
CO2	Employ skills to present his/her work in front of a panel and defend it.	3	2	0	0	2	0	0	0	1	3	0	0	3	3	3
CO3	Knowledge to write a report pertaining to a large scale architectural project.	0	2	0	0	0	0	0	0	1	3	0	3	1	1	3
CO4	Understand different digital and physical skills to present his/her work for Project execution.	0	0	0	0	3	0	0	0	0	2	0	0	2	2	2
CO5	Distinguish details to be developed for site planning, structure, services and other aspects.	3	3	0	0	0	0	1	0	0	0	2	0	2	3	1
CO6	Understand the design requirements as specified in client's and architect's briefs.	2	0	0	3	0	2	1	1	3	3	0	0	1	3	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: Professional Practice	Subject Code: <u>BARC1-X60</u>	Semester: <u>10TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understand the various acts and regulations related to Architectural profession in India.	2	0	0	3	0	2	0	0	0	0	0	3	3	3	1
CO2	Knowledge about the Code of Conduct which is framed by Council of Architecture, India.	2	2	0	0	0	3	0	3	0	0	0	3	3	3	1
CO3	Distinguish different legal matters which are associated with professional practice, dispute, competitions, tenders and contracts etc.	3	0	0	3	0	2	0	0	0	0	0	0	2	3	1
CO4	Knowledge about the associated areas like office management, teamwork, human resource, environment and social responsibility.	2	0	0	0	0	0	0	0	3	0	3	0	3	3	1
CO5	Design Tender and Contract document.	3	0	0	0	0	2	0	3	3	2	0	0	2	3	1
CO6	Distinguish between the responsibilities of architect, client, contractor.	3	3	0	0	0	3	0	0	2	0	2	0	3	3	1

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MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Energy Efficient Buildings & Building Automation</u>	Subject Code: <u>BARC1-X69</u>	Semester: <u>10TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	CO 1: Understanding energy sources, global scenario and energy consumption	0	0	0	0	0	1	2	0	0	1	0	1	2	1	2
CO2	CO 2: Understanding study of different energy-efficient principles of a building and their various application techniques in different climatic zones prevailing in India including solar active and passive features.	1	0	1	0	0	1	2	0	0	1	0	1	2	2	2
CO3	CO 3: Understanding principles for designing of large scale mechanical services	0	0	2	0	0	1	1	0	0	1	0	1	2	2	3
CO4	CO 4: Understanding Building Automation, control systems and monitoring	0	1	2	0	0	1	1	0	0	0	0	1	3	1	2
CO5	CO 5: Learning the role of lighting and illumination related issues for energy efficiency	0	1	2	0	0	1	1	0	0	0	0	1	3	1	3

Enter Correction levels 1, 2 or 3 as defined below:

1. Slight (Low) - upto 30% 2. Moderate (Medium) –above 30% and upto70% 3. Substantial (High) – above 70%



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Department: **G.Z.S. SCHOOL OF ARCHITECTURE & PLANNING**
MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Journalism</u>	Subject Code: <u>BARC1-X71</u>	Semester: <u>10TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding theories and techniques in journalism	1	0	1	0	0	0	0	1	0	0	0	0	2	1	2
CO2	Understanding contemporary journalism in Architecture act	1	0	1	0	0	0	0	1	0	1	0	1	2	1	2
CO3	Reporting, recording, analyzing and evaluating an architectural project	1	0	1	0	0	0	0	1	0	2	0	1	2	1	2
CO4	Editing journalistic material related to built environment	1	0	1	0	0	1	0	1	0	2	0	1	3	1	2
CO5	Preparing research writings and thesis reports	1	0	1	0	0	0	0	1	0	2	0	1	3	1	3
CO6	Usage of skills of journalism to enhance documentation, analytical ability & develop effective architectural critique and specialized career option.	1	0	1	0	0	1	0	1	0	2	0	2	2	1	2

Enter Correction levels 1, 2 or 3 as defined below: 1. Slight (Low) - upto 30% 2. Moderate (Medium) – Above 30% and upto 70% 3. Substantial (High) – above 70%



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Department: **G.Z.S. SCHOOL OF ARCHITECTURE & PLANNING**
MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Sustainable Architecture</u>	Subject Code: <u>BARC1-X73</u>	Semester: <u>10TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Making the students aware to environment and ecology for Sustainable development	1	0	1	0	0	1	3	0	0	0	0	1	2	1	1
CO2	Understanding the principles and concepts of Sustainable Architecture for the built environment.	1	0	1	0	0	0	3	0	0	1	0	1	2	2	2
CO3	Understanding about various renewable and non renewable energy sources and their importance for Sustainable development	0	0	1	0	0	0	2	0	0	1	0	1	2	2	3
CO4	Understanding Sustainable construction materials and Indoor environment	0	0	0	0	0	1	2	0	0	1	0	1	3	1	2
CO5	Understanding various green building rating systems and ECBC code	0	0	0	0	0	1	2	0	0	1	0	1	3	1	2
CO6	Understanding assessment of Green buildings in various rating systems of India	0	1	1	0	0	1	2	0	0	1	0	1	3	1	2

Enter Correction levels 1, 2 or 3 as defined below: 1. Slight (Low)- upto 30% 2. Moderate (Medium) – Above 30% and upto 70% 3. Substantial (High) – above 70%



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Department: **G.Z.S. SCHOOL OF ARCHITECTURE & PLANNING**
MRSPTU

Program: **B.Arch**

COs, POs, PSOs Mapping

Subject: <u>Architectural Conservation</u>	Subject Code: <u>BARC1-X74</u>	Semester: <u>10TH</u>
Credit: <u>2</u>	L S T P <u>1 0 1 0</u>	Duration: <u>3 Hrs.</u>

COs	Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	Understanding the principle, objective, role of conservation and prepare the methodology to execute the conservation work.	3	0	0	2	0	2	1	0	2	0	3	1	1	2	3
CO2	Understanding about Methods of studying and documenting historical monuments in the context of guidelines issued by UNESCO, INTACH.	3	0	0	3	0	2	1	1	3	0	2	1	1	1	3
CO3	Understanding about Study of construction methods and structural analysis of various historical building styles e.g. Arches Domes, Vaults and Shikharas etc.	3	0	0	3	0	2	1	0	3	0	0	1	1	2	3
CO4	Understanding finishes in historical buildings and effects of weathering/ pollution on historical buildings	2	0	0	3	0	2	1	0	0	0	0	0	1	2	3
CO5	Understanding the methods of saving monuments from vandalism	2	0	0	3	0	2	1	3	0	0	0	2	1	1	3
CO6	Understanding Role of Historic Building/Area/City in Present Context	3	0	0	3	0	2	1	1	0	0	0	1	1	1	3

Enter Correction levels 1, 2 or 3 as defined below: 1. Slight (Low)- upto 30% 2. Moderate (Medium) – Above 30% and upto 70% 3. Substantial (High) – above 70%