

TEACHING SCHEME & EXAMINATION

FOURTH YEAR SEVENTH SEMESTER B.ARCH (BUILDING CONSTRUCTION TECHNOLOGY)

Code No.	Subject	HOURS / WEEK					Exam	Viva	T W	Total marks
		L	S	WS LAB.	FT	TOTAL				
AR.BCT-701	Design Studio - VII	-	12	-	3	15	-	-	700	700
AR.BCT-702	Adv. Construction - I	3	2	-	2	7	100	-	100	200
AR.BCT-703	Structure – VII	2	-	-	-	2	50	-	50	100
AR.BCT-704	Construction Management - I	2	-	-	-	2	50	-	50	100
AR.BCT-705*	Elective – VII	2	-	-	-	2	-	-	-	-
AR.BCT-706*	Elective – VIII	2	-	-	-	2	-	-	-	-
AR.BCT-707	Field Trips, Measure Drawings and Report writing.	-	-	-	-	-	-	-	100	100
	TOTAL	11	14	-	5	30	200	-	1000	1200

- Electives are treated as AUDIT SUBJECT of 100 marks each, with 50% required for passing. The marks obtained in Elective subject shall not be added towards aggregate total of the mark sheet.

FOURTH YEAR EIGHTH SEMESTER B. ARCH (BUILDING CONSTRUCTION TECHNOLOGY)

Code No.	Subject	HOURS / WEEK					Exam	Viva	T.W.	Total marks
		L	S	WS LAB.	FT	TOTAL				
AR.BCT-801	Design Studio VIII (Office Training)	-	-	-	-	-	-	-	400	400
AR.BCT-802	Design Report	-	-	-	-	-	-	-	200	200
	TOTAL	-	-	-	-	30	-	-	600	600

- Electives are treated as AUDIT SUBJECT of 100 marks each, with 50% required for passing. The marks obtained in Elective subject shall not be added towards aggregate total of the mark sheet.
- Min. 16 weeks of training with a registered Professional Consulting Firm (Project management / construction company.) coordinating with an Architectural firm.

**FIFTH YEAR
NINTH SEMESTER B. ARCH (BUILDING CONSTRUCTION TECHNOLOGY)**

Code	Subject	HOURS / WEEK					Exam	Viva	T.W.	Total marks
		L	S	WS LAB	FT	Total				
AR.BCT-901	Design Studio – IX	-	10	-	2	12	-	-	400	400
AR.BCT-902	Field Studio-IX (Analysis)	-	2	-	2	4	-	-	100	100
AR.BCT-903	Advanced Construction and Structure	2	2	-		4	100	-	100	200
AR.BCT-904	Professional Practice & Valuation	2	-	-	-	2	50	-	50	100
AR.BCT-905	Research Report	-	2	-	2	4	-	-	300	300
AR.BCT-906*	Elective – IX	2	-	-	-	2	-	-	-	-
AR.BCT-907*	Elective – X	2	-	-	-	2	-	-	-	-
AR.BCT-908	Filed Trips, Measure Drawings and Report writing	-	-	-	-	-	-	-	100	100
	TOTAL	8	16	-	6	30	150		1050	1200

- Electives are treated as AUDIT SUBJECT of 100 marks each, with 50% required for passing. The marks obtained in Elective subject shall not be added towards aggregate total of the mark sheet.

**FIFTH YEAR
TENTH SEMESTER B. ARCH (BUILDING CONSTRUCTION TECHNOLOGY)**

Code	Subject	HOURS / WEEK					Exam	Viva	T.W.	Total marks
		L	S	WS LAB	FT	TOTAL				
AR.BCT-1001	Design Studio – X	-	18	-	2	20	-	-	900	900
AR.BCT-1002	Field Studio-X (Synthesis)	-	4	-	2	6	-	-	300	300
AR.BCT-1003*	Elective XI	-	2	-	-	2	-	-	-	-
AR.BCT-1004*	Elective XII	-	2	-	-	2	-	-	-	-
	TOTAL	-	26	-	4	30	-	-	1200	1200

- Electives are treated as AUDIT SUBJECT of 100 marks each, with 50% required for passing. The marks obtained in Elective subject shall not be added towards aggregate total of the mark sheet.
- Student shall be awarded final degree certificate when he shall have passed/cleared stage-2 electives by obtaining minimum passing marks.

**CURRICULUM OUTLINE FOR
B. ARCH (BUILDING CONSTRUCTION TECHNOLOGY)**

**FOURTH YEAR
SEVENTH SEMESTER B. ARCH (BUILDING CONSTRUCTION TECHNOLOGY)**

Code No.	Subject	HOURS / WEEK					Exam	Viva	T W	Total marks
		L	S	WS LAB.	FT	TOTAL				
AR.BCT-701	Design Studio - VII	-	12	-	3	15	-	-	700	700
AR.BCT-702	Adv. Construction - I	3	2	-	2	7	100	-	100	200
AR.BCT-703	Structure – VII	2	-	-	-	2	50	-	50	100
AR.BCT-704	Construction Management - I	2	-	-	-	2	50	-	50	100
AR.BCT-705*	Elective – VII	2	-	-	-	2	-	-	-	-
AR.BCT-706*	Elective – VIII	2	-	-	-	2	-	-	-	-
AR.BCT-707	Field Trips, Measure Drawings and Report writing.	-	-	-	-	-	-	-	100	100
	TOTAL	11	14	-	5	30	200	-	1000	1200

AR.BCT – 701

DESIGN STUDIO – VII

FOCUS:

- Understand urban contexts and design response
- Understand new infrastructure needs
- Work out construction and structural details of a long span structure

CONTENTS:

- Urban insertion in old city
- Design of new facilities for a metropolis

PROJECT:

- Prepare construction details and schedule and quantity documents for the project
- Understand urban contexts and design response
 - Understand new infrastructure needs
 - Work out construction and structural details of a long span structure

AR.BCT – 702

ADVANCED CONSTRUCTION

FOCUS:

- Study of advance construction systems in architectural context.
- Detailing of various areas of interest to individual students.

CONTENTS:

- Building failure of R.C.C Structure and its remedies
- Disaster prone Buildings and different methods of repairs
- Structural cracks and construction chemicals
- Swimming pool design and detailing

PROJECT:

Design of a structure like swimming pool or water tank with detailed drawings.

AR.BCT – 703

STRUCTURE – VII

FOCUS: Structural failures during Disasters

CONTENTS:

- Introduction to Earthquake: earth and its interior, Plate tectonics, Seismic waves, Magnitude, Intensity, Seismic zones of India, Indian seismic codes.
- Seismic effects on structure, Architectural features affecting seismic performance of buildings, Seismic design philosophy for buildings, ductility of building and their effects, non-structural elements, pounding, load path.
- Behavior of masonry building during earthquake, Provision of horizontal bonds and vertical reinforcement in masonry building.
- Behavior of R.C.C. building, ductile detailing of beam, column, joints, shear wall, Behavior of open ground story building, short column effects, Reduction of earthquake effects on building, Over view of earthquake resistant structural systems, cantilevers, foundation, liquefaction of soil.
- Introduction of seismic coefficient method.

AR.BCT – 704

CONSTRUCTION PROJECT MANAGEMENT

FOCUS: Techniques for planning and implementation of construction projects.

CONTENTS:

- Nature of construction projects, need for proper planning and management processes and equipment used.
- Techniques for scheduling: Bar chart, Net working diagram, project evaluation and review techniques, Critical Path Method.
- Practical implementation and application of PERT & CPM to typical construction projects.
- Maintenance of records, bills, and method of making payments.

AR.BCT-705

ELECTIVE VII

FOCUS: To help students to explore their aptitudes and develop skills in any related field. A number of subjects can be offered depending on the faculty interests and availability.

CONTENTS: Students may register for any one of the courses offered for the semester as shown in the appendix.

AR.BCT-706

ELECTIVE VIII

FOCUS: To help students to explore their aptitudes and develop skills in any related field. A number of subjects can be offered depending on the faculty interests and availability.

CONTENTS: Students may register for any one of the courses offered for the semester as shown in the appendix.

AR.BCT – 707 ***FILED TRIPS, MEASURE DRAWINGS AND REPORT WRITING - IV***

FOCUS: Study of various types of advance buildings in their contexts for appreciation and critical evaluation as well as introduce various issues to the students by interacting with common people for technique / execution.

CONTENTS: Sites and buildings will be selected in order to complement studies undertaken in various subjects: Design Studio, Construction, advance technology advance materials, and its applications construction detailing and integrative approach to the large scale projects. New building materials and technical detailing various types of long span structural solution on field study. Preparation of analytical project report for the field study.

**FOURTH YEAR
EIGHTH SEMESTER B. ARCH (BUILDING CONSTRUCTION TECHNOLOGY)**

Code No.	Subject	HOURS / WEEK					Exam	Viva	T.W.	Total marks
		L	S	WS LAB.	FT	TOTAL				
AR.BCT-801	Design Studio VIII (Office Training)	-	-	-	-	-	-	-	400	400
AR.BCT-802	Design Report	-	-	-	-	-	-	-	200	200
	TOTAL	-	-	-	-	30	-	-	600	600

AR.BCT-801

***DESIGN STUDIO VIII
(OFFICE TRAINING)***

- FOCUS:**
- Expose the students to Architectural profession to understand the process including conception to execution of project.
- CONTENTS:**
- Min 16 weeks of training with a registered Architectural firm.
 - Understating of Professional Practice methods in Architectural firm.
Develop Client contacts to production of documents, tendering drawing, site supervision, co-ordination of various agencies.
Office Training.(16 week minimum required)
Training of Field Work Co-ordination with Architect, consultants and site engineers,
Co-ordination of Design process and preparation of drawings, Detailing. Site and project management report.
- EVALUTION:**
- Office training report.
 - Complete documentation & analysis of all projects including construction details, working drawings, documents of project on site.
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AR.BCT-802

DESIGN REPORT

- FOCUS:**
- Research Report is intended to evaluate the student's capacity to Understand, analyze and resolve complex issues related to Architecture and the Environment.
 - Express verbally and visually data, analysis and synthesis of the research
- CONTENTS:**
- The students is supposed to work under the guidance of internal/external guide in the Areas of public concern and related issues such as:
- History and theory of Construction technology.
 - Conservation and restoration
 - Architectural forms and structure and advanced techniques for construction
 - Advanced materials and application.
- EVALUATION:**
- Students shall submit printed and digital versions of the report along with PowerPoint presentation and summary.

**FIFTH YEAR
NINTH SEMESTER B. ARCH (BUILDING CONSTRUCTION TECHNOLOGY)**

Code	Subject	HOURS / WEEK					Exam	Viva	T.W.	Total marks
		L	S	WS LAB	FT	Total				
AR.BCT-901	Design Studio – IX	-	10	-	2	12	-	-	400	400
AR.BCT-902	Field Studio-IX (Analysis)	-	2	-	2	4	-	-	100	100
AR.BCT-903	Advanced Construction and Structure	2	2	-		4	100	-	100	200
AR.BCT-904	Professional Practice & Valuation	2	-	-	-	2	50	-	50	100
AR.BCT-905	Research Report	-	2	-	2	4	-	-	300	300
AR.BCT-906*	Elective – IX	2	-	-	-	2	-	-	-	-
AR.BCT-907*	Elective – X	2	-	-	-	2	-	-	-	-
AR.BCT-908	Filed Trips, Measure Drawings and Report writing	-	-	-	-	-	-	-	100	100
	TOTAL	8	16	-	6	30	150		1050	1200

AR.BCT-901

DESIGN STUDIO IX

FOCUS: Design Studio will test the students' ability to quickly analyse, conceptualize and resolve various theoretical positions in real contexts

CONTENTS: The student is supposed to explore significance of new technologies, innovative design processes, materials, and related issues such as

- Green design
- Sustainable living
- New materials
- Prefabrication

The project will involve unit design and cluster planning for housing incorporating some of the above concerns with emphasis on integration

EVALUATION: Presentation of design interpretation of the concepts with relevant drawings, models.

AR.BCT- 902

FIELD STUDIO – IX

FOCUS: Understand construction stages and integration of the design and engineering systems and management of the site, as a first hand experience.

CONTENTS: Detailed case studies for the project with special emphasis on construction drawings, and design required for materials, technologies used and stages in the execution of the project management.

Infrastructure planning and designing for a large scale i.e. (Institutional housing, hospital, hotel building) project for services, method of construction stages for scheduling, special / advance detailing specifications and tendering preparation etc.

AR.BCT- 903

ADVANCED CONSTRUCTION & STRUCTURE

SCOPE: Understanding of related dimensions of building technology & study of newly develop techniques in the construction industry.

CONTENTS:

- Industrial construction
Various structural alternatives – detailing and advanced materials industrial flooring
- Slip form construction
- Unconventional building construction
- Design of formwork system for exposed RCC structure

METHODS: Lecture, Slide show, Case study report with Analysis, Preparation of construction drawings on computer with the relation of working drawing.

AR.BCT- 904

PROFESSIONAL PRACTICE & VALUATION

FOCUS: The students shall be made aware of the code of professional conduct and law regarding the Architectural profession. They will be trained for the office practices.

CONTENTS:

- Role of an architect, responsibilities and liabilities
- Architects Act 1972 and registration and relationship with Council of Architecture India.
- Work and Scale of professional charges, mode of working and payments
- Architectural competitions, Valuation of properties, Tendering, contract document and article of agreement,
- Office management
- Arbitration- settling of disputes etc.

AR.BCT- 905

Research Report

FOCUS: Research Report is intended to evaluate the student's capacity to understand, analyze & resolve complex issues related to Architecture, construction and environment. The student is supposed to learn how to express verbally and visually, the analysis and synthesis of the data.

CONTENTS:

- Critical analysis of data collected
- Presentation of the analysis
- Refining of the report based on the feed-back from the guide

EVALUATION: Final presentation shall be done as a report (in printed and digital version) with

- Contents including all chapters with text, sketches, drawings and photographs
- Hypothesis, case studies, interviews, observations, inferences etc.

Synopsis of the research with a Power-point presentation

AR.BCT- 906

ELECTIVE - IX

- FOCUS:** To help students to explore their aptitudes and develop skills in any related field. A number of subjects can be offered depending on the faculty interests and availability.
- CONTENTS:** Students may register for any one of the courses offered for the semester as shown in the appendix.

AR.BCT- 907

ELECTIVE - X

- FOCUS:** To help students to explore their aptitudes and develop skills in any related field. A number of subjects can be offered depending on the faculty interests and availability.
- CONTENTS:** Students may register for any one of the courses offered for the semester as shown in the appendix.
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AR.BCT – 908

FILED TRIPS, MEASURE DRAWINGS AND REPORT WRITING - IV

- FOCUS:** Study of various types of advance buildings in their contexts for appreciation and critical evaluation as well as introduce various issues to the students by interacting with common people for technique / execution.
- CONTENTS:** Sites and buildings will be selected in order to complement studies undertaken in various subjects: Design Studio, Construction, advance technology advance materials, and its applications construction detailing and integrative approach to the large scale projects. New building materials and technical detailing various types of long span structural solution on field study.
Preparation of analytical project report for the field study.

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AR.BCT-1002	Field Studio-X (Synthesis)	-	4	-	2	6	-	-	300	300
AR.BCT-1003*	Elective XI	-	2	-	-	2	-	-	-	-
AR.BCT-1004*	Elective XII	-	2	-	-	2	-	-	-	-
	TOTAL	-	26	-	4	30	-	-	1200	1200

AR.BCT-1001

DESIGN STUDIO – X

FOCUS: The undergraduate design thesis is intended to evaluate the student's capacity to understand, analyze and resolve complex issues related to design and construction.

CONTENTS: The student is supposed to work under the guidance of internal / external guide in the areas of public concern & related issues such as

- Architectural Programming and Interpretation of the contexts
- Restoration and Conservation.
- Movement network & infrastructure.
- Ordering themes / Ideas / Concepts.
- Scheduling of construction stages and management of processes

Evaluation: Prepare construction details and schedule and quantity documents for the project
Presentation of final design with drawings, models and case studies with a report (both in printed and in digital format) to the external Jury and guide

AR.BCT-1002

FIELD STUDIO - X

FOCUS: Understand construction stages and integration of the design and engineering systems and management of the site, as a first hand experience.

CONTENTS: Detailed case studies for the project with special emphasis on construction drawings, and design required for materials, technologies used and stages in the execution of the project management.
Infrastructure planning and designing for a large scale i.e. (Institutional housing, hospital, hotel building) project for services, method of construction stages for scheduling, special / advance detailing specifications and tendering preparation etc.

AR.BCT- 1003

ELECTIVE – XI

FOCUS: To help students to explore their aptitudes and develop skills in any related field. A number of subjects can be offered depending on the faculty interests and availability.

CONTENTS: Students may register for any one of the courses offered for the semester as shown in the appendix.

AR.BCT- 1004

ELECTIVE - XII

FOCUS: To help students to explore their aptitudes and develop skills in any related field. A number of subjects can be offered depending on the faculty interests and availability.

CONTENTS: Students may register for any one of the courses offered for the semester as shown in the appendix.