



# **SCHOOL OF ARCHITECTURE** **JAMMU**

## **BACHELOR OF ARCHITECTURE** (Five-Year Full Time Degree Program) **SCHEME OF EXAMINATION** **AND SYLLABUS – 2017**

(APPLICABLE TO 2017-18 & 2018-19 BATCHES ONLY)

(Semester – VII to Semester – X)

(Fourth and Fifth Year)



<b>ABBREVIATIONS / CODES / NOMENCLATURE</b>	
<b>Course Code Convention</b>	
TYSLC  Example BS111COD1 ES448PAT AS5510ADT	T: Title of Study Code Y: Year Level (1, 2, 3, .... through 5 for years 1 to 5) SL: Semester Level (1, 2, 3, .... through 10 for semesters 1 to 10) C: Semester-wise Course Name Abbreviation (from List of Courses).
<b>Title of Study Convention</b>	
BS1	Basic Studies
FS2	Foundation Studies
ES3	Exploration Studies
ES4	Experimentation Studies
AS5	Application Studies
<b>Course Pedagogy (Main) Convention</b>	
A	Internship
L	Lecture
P	Practical
S	Studio
T	Thesis
<b>Course Pedagogy (Additional) Convention</b>	
D	Discussion Seminar
I	Independent Study/ Self Work
M	Make-up Tutorial
R	Research Seminar
W	Design Workshop
<b>Teaching Scheme Convention</b>	
L	Lecture
P	Practical
S	Studio
T	Tutorial
NA	Not Applicable
<b>Examination Scheme Convention</b>	
IA	Internal Assessment
EE	External Examination
CP	Class Presence
CA	Class Assignment
MT	Mid Term
T	Theory Paper
J	Jury
V	Viva-Voce
D	Duration of Examination in hours

**ANNEXURE - I**

S.No.	Course Code	Course Title	Teaching Scheme				Examination Scheme			
			L	T	P	S	IA	EE	TOTAL	D
<b>SEMESTER – VII</b>										
1	ES447ADS5	Architectural Design Studio - V	1	0	0	7	210	90	<b>300</b>	-
2	ES447ABM	Advanced Building Materials	2	1	0	0	50	50	<b>100</b>	3
3	ES447ABS5	Advanced Building Systems	2	1	0	0	50	50	<b>100</b>	3
4	ES447ACT	Advanced Construction Technologies	2	1	0	0	50	50	<b>100</b>	3
5	ES447EL31	Elective - III (Vernacular Architecture)	2	1	0	0	50	50	<b>100</b>	3
	ES447EL32	Elective - III (Sustainable Architecture)								
6	ES447EL33	Elective - III (Vastu Shastra)	2	0	0	4	50	50	<b>100</b>	3
	ES447LDA	Landscape Design & Architecture								
<b>TOTAL</b>			11	4	0	11	460	340	<b>800</b>	15

*Note: the students have to choose one elective out of three choices given in elective III in consultation with the batch coordinator.*

**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 ADS5					Architectural Design Studio – V											
Teaching Scheme					Internal Assessment						External Examination				TOTAL MARKS	D
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL		
1	0	0	7		21	42	42	42	63	<b>210</b>		90		<b>90</b>	<b>300</b>	-

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Develop spatial thinking and skills necessary for the analysis and design of architectural space and form.
2. Understand architectural enclosures as mediating between people and the outside world.
3. Understand and learn the integration of different aspects of design with an objective of bettering the design solution.
4. Gain exposure to design thinking processes including envisioning, planning and various forms of analysis all of which help shape a robust problem statement that forward design innovation.
5. Work cooperatively as part of a team and take a leadership role when required.
6. Demonstrate basic competence in architectural design.

**COURSE CONTENTS***(120 Contact Periods)*

The theme of the design studio sequence shall be Urban Design. The focus remains on urban planning and design. Lectures include topics such as Urban Planning, Regional Planning, City Planning with Lectures based on urban design, traffic planning skyline, placemaking, campus planning, etc.

Time problem exercises shall be based on Urban Design/ Traffic Control & Planning/ Campus Planning.

Final design problem exercise shall be University Campus/ IT Park/ Mixed Use Development, or design problems of similar nature and scale.

*Note: At least TWO (2) Time-problems and ONE (1) Final Design Problem shall be completed in the entire semester, covering the entire syllabus uniformly.*

**NOTE TO EXAMINER:****JURY**

1. Exam shall be an Open Jury type.
2. Jury shall examine the displayed work done by the student in full semester.
3. The duration of the Jury shall be the time taken to examine all the students.
4. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. *Site Analysis: A Contextual Approach To Sustainable Land Planning And Site Design* By James A. Lagro Jr.
2. *Basics Architectural Design* By Bert Bielefeld.
3. *Lynch, Kevin (2000) Image Of The City*, Mit Press, London.
4. *Spreiregen, P D (1965) Urban Design: The Architecture Of Towns And Cities*, Mcgraw Hill Publishing.
5. *Watson, Donald Et Al (2003) Time Saver Standards For Urban Design*, Mcgraw Hill, New York.
6. *Bis (2005) National Building Code, Sp: 7 (S & T)*, Bureau Of Indian Standard, New Delhi.



**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 ABM					Advanced Building Materials											TOTAL MARKS	D
Teaching Scheme					Internal Assessment						External Examination						
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL			
2	1	0	0		5	10	10	10	15	50	50			50	100	3	

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Develop an understanding of advanced materials associated with the building construction.
2. Develop ability to propose and evaluate alternative materials for construction.
3. Critically analyse and resolve construction material related problems on site.
4. Develop ability to research and analyse new materials and products.

**COURSE CONTENTS**

*(45 Contact Periods)*

**Unit-I: Introduction: Traditional to Modern**

*(08 Contact Periods)*

Overview of Traditional Materials used in building construction, Introduction to Nanotechnology and its development.

**Unit-II: Advanced Materials – Brick & Concrete**

*(12 Contact Periods)*

Basic Overview of advanced materials like Pollution-Absorbing Brick, Wool Brick, Self-Healing Concrete, Light generating Concrete.

**Unit-III: Advanced Materials – Wood, Bamboo & Metals**

*(12 Contact Periods)*

Basic Overview of advanced materials like Laminated Timber, Translucent Wood, Modular Bamboo. Basic Overview of advanced materials like Transparent aluminum, aluminum Foam.

**Unit-IV: Advanced Materials – Others**

*(13 Contact Periods)*

Basic Overview of advanced materials like Graphene, Aero-Graphite, Microbial Cellulose, Spider Silk, Nano-Crystal, Hydro-Ceramics, Biochar, Bioreactors, Invisible Solar Cells.

**NOTE TO EXAMINER:**

*THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. *Nano Materials In Architecture, Interior Architecture and Design* By Sylvia Leydecker, Harold Kroto, Marius Kölbl, Michael Veith, Sascha Peters · 2008.
2. *New Materials in Civil Engineering, 1<sup>st</sup> Edition* By Pijush Samui, D. Kim, N. Iyer and S. Chaudhary.
3. *Building the Future – Innovation in design, materials and construction, 1st Edition* By G.S.T. Armer, J.L. Clarke and F.K. Garas.
4. *Transmaterial Next* By Blaine Brownell.

**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 ABS					Advanced Building Systems										TOTAL MARKS	D
Teaching Scheme					Internal Assessment					External Examination			TOTAL MARKS	D		
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J				
2	1	0	0		5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Develop an understanding of the advanced building services such as Fire Protection and Security and their application in the design proposals of buildings of slight complex nature such as multistoried.
2. Understand the integration of building systems and their application.
3. Understand the role of each system in achieving the desired building performance.
4. Apply gained knowledge in integrating the systems into architectural design.

Note: The thrust shall be on understanding the use and application of the services and not the calculation or numerical part.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Fire Protection***(10 Contact Periods)*

Causes and spread of fire. Fire triangle/ tetrahedron. Classes of fire. Combustibility of materials and fire resistance. Building Plans, Drawings, and Schematics. Code of fire safety, fire regulations & fire insurance. Structural elements, fire rating and fire resistance, planning and design of Fire escape routes and elements, wet risers, dry risers, sprinklers, smoke detectors, fire dampers, fire doors, water curtains etc.

**Unit-II: Fire Detection & Firefighting***(10 Contact periods)*

Fire Detection Equipment - Heat & Smoke sensors. Fire Alarm Systems.

Firefighting & Extinguishing Techniques. Firefighting pump and water storage, hose and hose fittings, dry and wet risers, automatic sprinklers etc. Fire Extinguishers - Portable fire extinguisher and other firefighting equipment. Means of escape, refuge areas, fire doors and water curtain & fire tender access. Modern firefighting systems in multi-storied buildings.

**Unit-III: Electronic Security and Surveillance Systems***(10 Contact Periods)*

Perimeter Protection, Intrusion Detection & Alarm Systems Perimeter Protection - Barriers, Doors, Gates, Turnstiles and Fences. Intrusion Detection Sensors and Systems - Outdoor & Indoor. Building plans, Drawing & Schematics. Access Control- Introduction to Access Control Systems, Locks & Emergency Exits. Visitor Management Systems. Identification Systems – PIN, Card, Wireless systems and Biometric systems.

Surveillance & Recording System - Components of Basic Systems. Security lighting, illumination including Infra-red. Understanding CCTV cameras - Pan, Tilt & Zoom mechanisms. Recording Systems – Digital and Analog Recording. Burglar alarm system, functions of burglar alarm systems.

**Unit-IV: Building Automation***(15 Contact Periods)*

Concept and application of Automation Systems in buildings. Design issues related to building automation and its effect on functional efficiency.

Integrated Building Automation Systems- Components of building automation system integrating HVAC,



8electrical, lighting, security, fire-fighting, communication etc. Current trend and innovation in building automation systems; Knowledge base and decision support systems and building automation and management system; Application of expert system in building automation. Computerizing building management information. Impact of information Technology; Concept of artificial intelligence; Knowledge base and decision support systems.

**Suggested Exercise:**

1. Site visits of buildings where different types of Fire protection equipment have been installed, their working and the merits and demerits of the system.
2. Site visit to a multi-storeyed building with installation of various systems, their location and integration.
3. Expert lectures.

**NOTE TO EXAMINER:**

*THEORY PAPER (Conducted by University)*

1. *There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.*
2. *The students have to attempt Five (5) questions selecting at least one (1) question from each unit.*
3. *Minimum passing marks: Fifty percent*

**SUGGESTED BOOKS:**

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. *National Building Code of India 2016.*
2. *Jain. V.K., "Design and Installation of Services in Building complexes & High Rise Buildings", Khanna Tech. Publishers, New Delhi, 1986.*
3. *Understanding Building Automation Systems (Direct Digital Control, Energy Management, Life Safety, Security, Access Control, Lighting, Building Management Programs) by Reinhold A. Carlson, Robert A. Di Giandomenico.*
4. *Building Automation: Control Devices and Applications by In Partnership with NJATC (2008).*
5. *Building Control Systems, Applications Guide (CIBSE Guide) by The CIBSE (2000).*

**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 ACT					Advanced Construction Technologies											TOTAL MARKS	D
Teaching Scheme					Internal Assessment						External Examination						
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL			
2	1	0	0		5	10	10	10	15	50	50			50	100	3	

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Develop an advanced understanding of technologies associated with the building construction processes.
2. Critically analyze and resolve construction related problems on site.
3. Develop ability to research and analyze new construction methods and new products

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Cofferdams and Caissons, Pre-Cast and Pre-Stressed Concrete***(13 Contact Periods)*

Cofferdams and their uses, typical Detail of Cofferdam<sup>^</sup>, Caissons and their types, Typical Detail of Caissons<sup>^</sup>.

Pre-Cast Concrete – its advantages and disadvantages, applications, Pre-Cast Concrete Frames and Components, Typical Details – Foundation Connections, Column to Column Connections, Column to Beam Connections<sup>^</sup>. Pre-Stressed Concrete – Principles, Methods and Applications.

**Unit-II: Portal Frames***(13 Contact Periods)*

Portal Frames and their Types – Pre-Cast Concrete, Steel, Laminated Timber, Typical Detail of Pre-Cast Concrete Portal Frame<sup>^</sup>, Typical Detail of Hinges of Pre-Cast Concrete Portal Frame<sup>^</sup>, Typical Detail of Steel Portal Frame<sup>^</sup>, Typical Detail of Laminated Timber Portal Frame<sup>^</sup>.

**Unit-III: Advanced Structures and Roof Construction***(12 Contact Periods)*

Introduction to advanced Multi-storey structures, Types of Multi-storey structures, Construction of Advanced Roofs – Domes, Shells, Folded Plates, Membrane Roofs.

**Unit-IV: Future of Construction Technology***(07 Contact Periods)*

Basic Overview of the possible technologies that may be used in Construction like Virtual Reality & Augmented Reality, 3D Printing, Robotics and Artificial Intelligence.

<sup>^</sup> The Faculty shall ensure that the students prepare at least two drawing sheets on the underlined topics.

**NOTE TO EXAMINER:***THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent





**SUGGESTED BOOKS:**

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. *Advanced Construction Technology, 5<sup>th</sup> Edition By Roy Chudley, R. Greeno, M. Hurst and S. Topliss.*
2. *Construction Of Buildings, London, Vol. 1 To 5 By Barry R.*
3. *Fundamentals Of Building Construction: Materials & Methods By Edward Allen And Joseph Iano.*
4. *National Building Code, Sp 7, By Bureau Of Indian Standards.*
5. *Building Design And Construction Handbook By Frederick S. Merritt And Jonathan T. Ricketts.*

**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 EL31					Elective – III (Choice – 1) Vernacular Architecture											
Teaching Scheme					Internal Assessment					External Examination			TOTAL MARKS	D		
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J			V	EE TOTAL
2	1	0	0		5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Highlight the role of Vernacular Architecture in contemporary context.
2. Understand the role of climate and environment as a context in shaping building design,
3. Develop a sense of understanding of the relationship between architecture, environment and culture.
4. Acquire a working vocabulary that can help them practice cost effective, ecologically sensitive and culturally relevant schemes in design.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Introduction to Vernacular Architecture***(12 Contact Periods)*

Definition, Relevance, Role, Scope and factors contributing to its evolution around the world.

Study of various factors that shape the architectural character and render the regional variation of vernacular architecture-geographic, climatic, social, economic, political and religious aspects, local materials, workmanship and skills available.

**Unit-II: The Indian Context***(12 Contact Periods)*

Vernacular buildings of different regions of India, with an understanding of forms, spatial planning, cultural aspects, symbolism, colour, art, materials of construction and construction techniques Examples of like Kath-Kuni houses, Toda houses, Koti-Banal structures, Bhunga House, Bamboo House, Mud and timber structures etc.

**Unit-III: Study on works of various Architects***(12 Contact Periods)*

Study of works of contemporary architects, inspired from vernacular architecture, like B V Doshi, Laurie Baker, Revathi Kamath, and Raj Rewal, who have creatively innovated and negotiated the boundaries of tradition while dynamically responding to the changing aspirations and lifestyles.

**Unit-IV: Case Studies***(09 Contact Periods)*

Study and documentation of an existing settlement in the vicinity with reference to vernacular architecture, with accuracy in measuring, collating the recorded information and drawing them up in a specified format.

**NOTE TO EXAMINER:**

**THEORY PAPER** (Conducted by University)

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent



**SUGGESTED BOOKS:**

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. *Encyclopaedia of Vernacular Architecture of the world, Cambridge University Press, U.K,1997, Oliver Paul.*
2. *Architecture without architects, A short introduction to non-pedigreed architecture by Bernard Rudofsky*
3. *Architecture of the Indian desert, Kulbushan Jain & Meenakshi Jain, Aadi Centre, Ahmedabad*
4. *VISTARA, The Architecture of India, Carmen Kagal, Pub; The Festival of India,1986*
5. *Carter T & Cromley, E.C. Invitation to Vernacular Architecture. A Guide to the Study of Ordinary Buildings and Landscapes, Knoxville: The University of Tennessee Press,2005.*
6. *Cooper, I. Traditional buildings of India, Thames and Hudson Ltd., London, 1998.*

**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 EL32				Elective – III (Choice – 2) Sustainable Architecture											
Teaching Scheme				Internal Assessment						External Examination			TOTAL MARKS	D	
L	T	P	S	CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V			EE TOTAL
2	1	0	0	5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Appreciate the role of natural resources in building construction and maintenance.
2. Understand the role of Sustainable Architecture in contemporary context.
3. Acquire practical approach in creating ecologically sensitive schemes in design.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Introduction to Sustainability***(12 Contact Periods)*

Need for sustainable development: population growth, carbon emissions, global warming, climate change, ecological balance, ecological foot prints, Historical background, philosophical basis, social implications; Manifestoes: Brundtland report, Agenda 21, Kyoto Protocol, IPCC, Forum for Future, complex rating systems. Role of architects: sustainable site, energy (operational and embodied), materials, water and wastes; Green, eco, ecological, sustainable, bio-climatic, cradle-to-cradle, biomimicry, restorative, regenerative design; Systems Approach: definition of system, types, characteristics, components, behaviour, integrated design.

**Unit-II: Sustainable Site Planning***(12 Contact Periods)*

Site assessment and selection: topography, vegetation, built form, water, access to natural light, local wind patterns and micro climate; Site planning: layout, shape, spacing, orientation, mutual relationship, solar studies, pollution prevention and ecology, heat island effect. Design for environment: Greenfield development, smart growth, brownfield redevelopment strategies and infill development, sustainable urbanism. Socially responsible design: user-centric design, design education/ ethics and sustainability.

**Unit-III: Energy***(12 Contact Periods)*

Forms of energy, energy sources: renewable and non-renewable, energy conversion: cogeneration and fuel cells; Solar Energy: low temperature thermal systems (active & passive systems, solar air conditioning, solar water heating), high temperature thermal systems (solar thermal electricity system), photovoltaic systems, BPVs; Wind Energy: traditional wind mills, wind turbines – HAWT and VAWT (SWOC analysis); Other renewable energy: methane gas (waste), energy crops (biomass conversion), sea and earth (geo-thermal); Energy Storage: reversible chemical reactions, phase change materials.

**Unit-IV: Materials, Water and Wastes***(09 Contact Periods)*

Building Materials: embodied energy of materials, renewable materials, reuse of materials; Water efficiency: water use/ demand, quality of water, water conservation, ground water recharge; Waste management: gaseous wastes, liquid wastes, solid wastes, recycling systems; Contemporary examples of sustainable architecture.



**NOTE TO EXAMINER:**

**THEORY PAPER** (Conducted by University)

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. Edwards, B. (2010) *Green: Rough Guide to Sustainability*, RIBA Publications.
2. Kwok, AG & Grondzik, WT (2007) *The green studio handbook: environmental strategies for schematic design*, Architectural Press, Oxford.
3. Owen Lewis, J (1999) *A Green Vitruvius - Principles and Practice of Sustainable Architectural Design*, James & James.
4. Szokolay, S. V. (2008) *Introduction to Architectural Science*, Architectural Press.
5. TERI (2005) *Sustainable design manual, Vols 1 & 2*, The Energy and Resource Institute (TERI), New Delhi.
6. Frank Lloyd Wright: *Natural Design, Organic Architecture, lessons for building green*
7. Charles J: *Sustainable Construction: Green Building Design and Delivery*
8. Francis DK Ching: *Green Building Illustrated*
9. Kathryn Rogers: *Building Reuse: Sustainability, preservation, and the value of Design*
10. Peter Buchanan: *Ten shades of Green: Architecture and the Natural world*
11. Michael Pawlyn: *Biomimcry in Architecture*
12. Steven V Szokolay: *Introduction to Architectural Science*
13. Paola Sassi: *Strategies for sustainable Architecture*
14. Terry W, Antony R, Helen B: *Understanding Sustainable Architecture*

**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 EL33					Elective – III (Choice – 3) Vastu Shastra											
Teaching Scheme					Internal Assessment						External Examination				TOTAL MARKS	D
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL		
2	1	0	0		5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Highlight the role of Vastu Shastra in contemporary context.
2. Develop a sense of understanding of the relationship between architecture and Vastu.
3. Acquire a working vocabulary that can help them practice Vastu schemes in design.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Introduction to Vastu Shastra***(09 Contact Periods)*

Introduction to Vastu, History of Vastu, Vedas and other ancient books, Growth of Vastu, Vastu and today, Scientific definition of Vastu, Solar Passage & Buildings with research referencing, Solar Energy, Humans & Buildings, Cosmic Energy & Flow.

**Unit-II: Vedic Vastu***(09 Contact Periods)*

Concept of Vedic Vastu, VastuPurush, Mandalas, Five Elements Theory, Planets & Directions.

**Unit-III: Land and Location as per Vastu Shastra***(12 Contact Periods)*

Angles in a Plot & Building, Veedhi-Shoola, Angles and Extentions, Shermukhi and Gaumkhi plot, Good and Bad Location. Selection of land & soil test, Examination of the land as per Mayamata and BrahitSamhita, Types of Land as per Vedic books, Auspicious land & Inauspicious land, Obstructions.

**Unit-IV: Planning as per Vastu Shastra***(15 Contact Periods)*

Direction and Corners, Eight directions, Importance of directions, Slope & Loading Pattern, Open space & balconies, Shapes, Vedic opinion on entries, Alternative opinion on entries, Main Door & Main Gate. Planning for Bedroom, Kitchen, Puja room, Bathroom, Children's room, Drawing Room, Living Room, Office Room.

**NOTE TO EXAMINER:**

*THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. Maharishi Vastu, Vastu City Planning: Sustainable Cities in Harmony with Natural Law
2. Kathleen Cox, the Power of Vastu Living: Welcoming Your Soul into Your Home and Workplace
3. Juliet Pegrum, The Vastu Vidya Handbook: The Indian Feng Shui
4. Kathleen Cox, Space Matters: Use the Wisdom of Vastu to Create a Healthy Home. 11 Top



**School of Architecture Jammu**

GCET Campus, Chak Bhalwal, Jammu

SYLLABUS of **B. Arch. Fourth and Fifth Year** (applicable to 2017 and 2018 Batch only)

*Designers Show You How*

5. *Satish Grover, Traditional Indian Architecture*
6. *Bubbar, D K, The spirit of Indian architecture: Vedantic Wisdoms of Architecture for Building Harmonious Space and Life*



**FOURTH YEAR (SEMESTER – VII)**

E S 4 4 7 LDA					Landscape Design & Architecture											
Teaching Scheme					Internal Assessment						External Examination			TOTAL MARKS	D	
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V			EE TOTAL
2	0	0	2		5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Introduce the students to the discipline of Landscape architecture & its relevance to Architecture.
2. Gain an insight into the changing relationship of human with nature, to develop the understanding of site and site planning.
3. Develop the skill of integrated design of open and built spaces.

**COURSE CONTENTS**

*(45 Contact Periods)*

**Unit-I: Landscape: An Introduction**

*(13 Contact Periods)*

Introduction to landscape - its meaning, Experience of a landscape, Aesthetics & Imagery of a landscape, Relationship of humans and nature; How landscapes relate to land, nature, environment and place; How the scales & conception of landscapes evolve over time, Sense of place in the landscape.

**Unit-II: Site Planning**

*(12 Contact Periods)*

Site survey and appraisal, Site Inventory checklist – Topography, vegetation, soil, hydrology, climate etc. Principles of site planning, Design issues in site planning and siting of buildings. Integrating the built and open spaces.

**Unit-III: Elements of Designed Landscapes**

*(10 Contact Periods)*

Brief overview of the use of landforms, water, plants, built elements, application of materials, street furniture in a designed landscape.

**Unit-IV: Sustainable Landscape**

*(10 Contact Periods)*

Exploration of sustainable landscape solutions at the site, brief overview of Xeriscaping, green roofs & walls, rainwater harvesting etc.

Studio component of the semester may be integrated with Architectural Design of the current semester.

**NOTE TO EXAMINER:**

*THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. Advanced Appleton. (1996). *The Experience of Landscape*. Wiley.
2. Geoffrey, and Jellico, S. (1987). *The Landscape of Man*. Thames and Hudson.
3. Holl, G. P. (2006). *Questions of Perception Phenomenon logy of Architecture*. Richmond: William





*Stout Publishers.*

4. *Laurie. (1986). An Introduction to Landscape Architecture. Elsevier.*
5. *Lynch, K. (1962). Site Planning. Cambridge: The MIT Press.*
6. *Reid, G. (2002). Landscape Graphics. New York: Watson-Guptill.*
7. *Simonds, J. O. (2006). Landscape Architecture: A Manual of Land Planning and Design.*



**ANNEXURE - II**

S.No.	Course Code	Course Title	Teaching Scheme				Examination Scheme			
			L	T	P	S	IA	EE	TOTAL	D
<b>SEMESTER – VIII</b>										
1	ES448PIT	Professional Internship & Training	0	0	40	0	350	150	<b>500</b>	-
<b>TOTAL</b>			0	0	40	0	350	150	<b>500</b>	-

**FOURTH YEAR (SEMESTER – VIII)**

<b>E S 4 4 8 PIT</b>					<b>Professional Internship &amp; Training</b>									
Teaching Scheme					Internal Assessment			External Examination				<b>TOTAL MARKS</b>	<b>D</b>	
L	T	P	S		Internal Jury			<b>IA TOTAL</b>	T	J	V			<b>EE TOTAL</b>
0	0	40	0		350			<b>350</b>		150		<b>150</b>	<b>500</b>	-

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Introspect the fundamental processes of designing of real buildings on real sites, equip them with a practical approach to implement and manage building projects in a professional manner.
2. Instill confidence in interacting with various key players in building design and construction processes.
3. Develop skills in aspects related to quantity survey, detailing etc.
4. Develop understanding of contemporary issues and techniques of building construction.

**COURSE CONTENTS****(18-24 Weeks)**

During office hours, the trainee shall prepare presentation drawings, working drawings, perspectives etc. with all possible detailing.

1. Regular site visits should be conducted for better understanding.
2. The trainee shall prepare a study report on the buildings designed by his/ her employer, based on site visits and personal observations made during drafting, various concepts learnt, covering various design aspects, structure, use of material, construction techniques, services etc.
3. The student shall also submit all the working details prepared by him/ her, during the course of the training.

*Note : Training coordinator to provide training manual to students in previous semester before students start applying for internship – refer ANNEXURE ‘A’*

**NOTE TO EXAMINER:****JURY**

1. Exam shall be an Open Jury type.
2. Jury shall examine the displayed work done by the student during the entire tenure of internship and requirements of presentation as per Training Manual .
3. The duration of the Jury shall be the time taken to examine all the students.
4. Minimum passing marks: Fifty percent.

**ANNEXURE - III**

S.No.	Course Code	Course Title	Teaching Scheme				Examination Scheme			
			L	T	P	S	IA	EE	TOTAL	D
<b>SEMESTER – IX</b>										
1	AS959ADS6	Architectural Design Studio - VI	1	0	0	7	210	90	<b>300</b>	-
2	AS959TPA	Town Planning & Architecture	2	1	0	0	50	50	<b>100</b>	3
3	AS959HAD	Hill Architecture & Design	2	1	0	0	50	50	<b>100</b>	3
4	AS959EL41	Elective - IV (Architectural Conservation)	2	1	0	0	50	50	<b>100</b>	3
	AS959EL42	Elective - IV (Architectural Journalism)								
5	AS959ADT1	Architectural Design Thesis - I	0	0	0	4	140	60	<b>200</b>	-
6	AS959M1	MOOC/ Open Elective - I	3	0	0	0	-	100	<b>100</b>	-
<b>TOTAL</b>			10	1	0	11	500	400	<b>900</b>	9

*Note: the students have to choose one elective out of two choices given in elective IV in consultation with the batch coordinator.*

**FIFTH YEAR (SEMESTER – IX)**

A S 9 5 9 ADS6														Architectural Design Studio – VI				
Teaching Scheme					Internal Assessment						External Examination			TOTAL MARKS	D			
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V			EE TOTAL		
1	0	0	7		21	42	42	42	63	<b>210</b>		90		<b>90</b>	<b>300</b>	-		

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Develop spatial thinking and skills necessary for the analysis and design of architectural space and form.
2. Understand architectural enclosures as mediating between people and the outside world.
3. Understand and learn the integration of different aspects of design with an objective of bettering the design solution.
4. Gain exposure to design thinking processes including envisioning, planning and various forms of analysis all of which help shape a robust problem statement that forward design innovation.
5. Work cooperatively as part of a team and take a leadership role when required.
6. Demonstrate basic competence in architectural design.

**COURSE CONTENTS***(120 Contact Periods)*

The theme of the design studio sequence shall be Integrated Systems. The focus remains on a comprehensive design. Lectures include topics on integrated services of large scale projects like transport terminals, airports, convention centers/warehouses etc.

Time problem exercises shall be based on comprehensive design projects such as Bus or Railway Terminals/ Museums/ Warehouses/Convention centers.

Final design problem exercise shall be Airport Terminal/ Hi-Tech Hi-Rise Skyscraper/ Port Terminal, or design problems of similar nature and scale.

*\*At least TWO (2) Time-problems and ONE (1) Final Design Problem shall be completed in the entire semester, covering the entire syllabus uniformly.*

**NOTE TO EXAMINER:****JURY**

1. Exam shall be an Open Jury type.
2. Jury shall examine the displayed work done by the student in full semester.
3. The duration of the Jury shall be the time taken to examine all the students.
4. Minimum passing marks: Fifty percent.

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. *Site Analysis: A Contextual Approach To Sustainable Land Planning And Site Design* By James A. Lagro Jr.
2. *Basics Architectural Design* By Bert Bielefeld.
3. *Integrated Buildings: The Systems Basis of Architecture 1st Edition* By Leonard R. Bachman.
4. *Fundamentals of Integrated Design for Sustainable Building* By Marian Keeler, Bill Burke.
5. *Bis (2005) National Building Code, Sp: 7 (S & T), Bureau Of Indian Standard, New Delhi.*

**FIFTH YEAR (SEMESTER – IX)**

A S 9 5 9 TPA					Town Planning & Architecture											
Teaching Scheme					Internal Assessment						External Examination				TOTAL MARKS	D
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL		
2	1	0	0		5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Expose the students to the history and development of planning, its relevance and application to modern day principles of town planning.
2. Understand evolution of Town Planning thought with special reference to India.
3. Develop an appreciation of the planning issues involved at the scale of a town or a city.

**COURSE CONTENTS***( 45 Contact Periods)***Unit-I: Introduction and Planning Theories & Principles***(15 Contact Periods)*

Introduction to the subject of Town Planning, need of study of Town Planning for an architect. Elements and planning principals.

Planning Theories – Theories by Le Corbusier, Sir Patrick Geddes, Sir Ebenezer Howard, C. A.Doxiadis, Clarence Perry and Lewis Mumford.

New towns and cities in India post-independence (Administrative, Tourism Potential Areas, Industrial, Railway Town, Religious Activities, Project Based Areas etc. – Chandigarh, Navi Mumbai, Naya Raipur, Amravati.

**Unit-II: Planning Techniques***( 10 Contact Periods)*

Introduction to Town Planning Schemes. Models of planning process - Structure Plan, Master Plan, Zonal development Plan and Action Plan – their purposes and contents. Levels of planning in India and their interrelationship, planning and administration.

Master plans of Jammu, Srinagar and Katra.

**Unit-III: Planning Legislation and Professional Practice***( 10 Contact Periods)*

Introduction to Planning Legislation: An overview of legal tools connected with planning and development. Introduction to Town Planning Acts , regional and town planning and development law,1985. URDPFI guidelines.

Introduction about Professional Bodies in planning profession such as T.C.P.O. and I.T.P.I. Introduction to Local and Self Government in urban as well as rural areas and their hierarchy with examples from J&K UT.

Various Planning authorities in J&K UT like JDA, SDA, JK HUDD.

**Unit-IV: New Paradigm in Planning in India***( 10 Contact Periods)*

Introduction to the MoHUA, GoI and its schemes and missions like - SMART cities with focus on Jammu and Srinagar, AMRUT, HRIDAY, PMAY, DAY-NULM, schemes on urban transport and NUTP.



**NOTE TO EXAMINER:**

**THEORY PAPER** (Conducted by University)

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. *Urban Pattern* By Arthur B. Gallion
2. *Design of Cities* By Edmund Bacon
3. *Image of City* By Kevin Lynch
4. *Town and Country Planning in India* By N. K. Gandhi
5. *Town Planning – Law, Administration and Professional Practice* By G. R. Diwan
6. *Tomorrow – Peaceful Path To Social Reforms* By Sir Ebenezer Howard
7. *The Death and Life of Great American Cities* By Jane Jacobs
8. *Basics of Town Planning* By J. G. Keskar
9. *Townscape* By Gordon Cullen
10. *Architecture of Town and Cities* By Paul D. Spreiregen
11. *The New Landscape* By Charles Correa
12. *Town Planning* By Rangwala
13. *Town Planning* By G.K.Hiraskar
14. *Urban and Regional planning* By Rame Gowda
15. *Town and country planning and Housing* By N.V.Modak, V.N.Ambedkar
16. *URDPFI Guidelines for Planning* By TCPO
17. *P.W.D. Handbook of Town Planning*
18. *Development Plan and Regional Plan Reports*
19. *Land Acquisition Act of 1894*
20. *Urban Arts Commission Act*

**FIFTH YEAR (SEMESTER – IX)**

A S 9 5 9 HAD					Hill Architecture & Design											
Teaching Scheme					Internal Assessment						External Examination			TOTAL MARKS	D	
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V			EE TOTAL
2	1	0	0		5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Gain knowledge on different aspects of Hill Architecture.
2. Acquire understanding of hill settlements and their spatial construct.
3. Understand the planning required in building construction in hilly regions and challenges faced today.
4. Apply the knowledge gained into making innovative and better solutions for construction and urban development in hilly areas.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Introduction to Hill Architecture***(07 Contact Periods)*

Hill architecture and its unique attributes and concerns; Historical perspectives of major Hill settlements of the world.

**Unit-II: Design Considerations in Hill Architecture***(13 Contact Periods)*

Factors influencing planning and design in hill context such as topography, hydrology, vegetation, climate, hazards, culture, economy, environment and availability of materials.

Design factors such as access, circulation, gradients, slope analysis, grading and interpolation of contours.

**Unit-III: Hill Architecture in India***(13 Contact Periods)*

Traditional hill settlements in India, architecture and spatial construct; An overview of Hill Architecture in the northern Himalayan region, Building types, techniques and materials.

Hill settlements of Jammu and Kashmir with vernacular architecture.

**Unit-IV: Issues and Challenges in Modern Context***(12 Contact Periods)*

Constraints of climate, topography and availability of materials; Structural aspects of modern buildings and necessary safeguards; Environmental and ecological concerns and safeguards, sustainable and climate responsive development in hills through vernacular architectural practices.

**NOTE TO EXAMINER:**

*THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent





**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. *Hill Housing: a comparative study* By Abbott D., Pollit K., Granada, 1980
2. *Environmental dimensions of rural settlements in hill areas* By Bhatt H.P., Ashish Pub House, 1993
3. *Environmental protection of the Himalaya - A Mountaineers' View* By Aamir A., 1994
4. *The Architectural Heritage of Himachal Pradesh* By Thakur, 1996
5. *The Survival of the Himalaya, Eco-systems- A scenario of Unsustainability* By Bahuguna, Lal S, Singh, Tej V., Sharma, M.L., 1998
6. *Himalayan Traditional Architecture* By O.C. Handa, Rupa & Co., New Delhi, 2009
7. *Himalayan Cities: Settlement Patterns, Public Places and Architecture* By Pratyush Shankar, Niyogi Books, 2018
8. *A Study of Planning, Design and Construction of Buildings in Hilly Regions of India* By Vrushali Chawhan, and Mohammad Arif Kamal, *American Journal of Civil Engineering and Architecture*, vol. 9, no. 1, 2021
9. *Vernacular practices as basis for formulating building regulations for hilly areas* By Kumar A., Poonam and Gupta A., *International Journal of Scientific & Engineering Research*, 5(5), 2014
10. *Vernacular practices: as a basis for formulating building regulations for hilly areas* By Ashwani Kumar, Pushplata, *International Journal of Sustainable Built Environment*, Volume 2, Issue 2, 2013
11. *ICIMOD, Constraints and Opportunities, International Centre for Integrated Mountain Development, Proceedings of International Symposium on Mountain Environment and Development Kathmandu, Nepal*
12. *Environmental Concerns and Strategies* By T.N. Khoshoo, South Asia Books; 2<sup>nd</sup> Sub edition, 1988

**FIFTH YEAR (SEMESTER – IX)**

A S 9 5 9 EL41					Elective – IV (Architectural Conservation)											
Teaching Scheme					Internal Assessment						External Examination				TOTAL MARKS	D
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL		
2	1	0	0		5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Introduce students to the background, concepts, principles of contemporary conservation practice and value-based approaches; now commonly applied in architectural conservation.
2. Provide an understanding of the techniques and practice of Architectural conservation.
3. Understand the operational framework in the protection of architectural heritage.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Introduction to Architectural Conservation***(15 contact periods)*

Understanding heritage, preservation and conservation; Understanding Built heritage and Cultural heritage; Terminologies and definitions in conservation - Mapping, Documentation, Authenticity, Cultural heritage, Intervention, Restoration, Buffer zone, OUV; Key principles and approaches to the conservation of built heritage in India and other countries and the philosophies underlying them.

**Unit-II: Conservation Tools, Techniques and Practice***(10 contact periods)*

Degrees of Intervention; Documentation of heritage sites - Resource mapping, data collection and research, photo documentation, building surveys and measured drawing, interpretation and analysis; Condition mapping; Statement of significance; Guidelines for adaptive reuse of historic structures.

**Unit-III: Heritage Management***(08 contact periods)*

What is heritage management; World Heritage List and Sites; Understanding management in World Heritage context; Impact of tourism on heritage sites. Best practices examples from India – Walled City of Ahmedabad, Jaipur Heritage Management plan, Muziris Heritage Project.

**Unit-IV: Heritage Protection***(12 contact periods)*

Role of national and international agencies in conservation with focus on ASI, ICCROM and ICOMOS; An overview on Central and State government policies and regulations; Conservation charters with focus on Athens charter, Venice Charter and The Washington charter; An overview on Acts, legislation and bylaws.

**NOTE TO EXAMINER:**

*THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. *English Heritage, Practical building conservation: conservation basics*



- Historic England (2008) Conservation Principles, Policies and Guidance*
2. *Jokilehto, J (2017) A History of Architectural Conservation, London, Routledge*
  3. *Avrami, E, Macdonald, S, Mason, R and Myers, D. (2019) Values in Heritage Management: Emerging Approaches and Research Directions. Getty Conservation Institute.*
  4. *Bernard Feilden, (2003) third edition, Conservation of Historic Buildings, Routledge*
  5. *James Strike, Architecture in Conservation: Managing Development at Historic Sites (Heritage: Care- Preservation-Management)*
  6. *ICOMOS, Guide to recording Historic Buildings, Butterworth, 1990*
  7. *David Andrews, Jon Bedford, Bill Blake, Paul Bryan, Tom Cromwell, Richard Lea, Measured and Drawn: Techniques and practice for the metric survey of historic buildings, English Heritage*
  8. *Tripathi, Alok, (2007) Ancient monuments and Archaeological Sites and Remains Act, 1958: with Rules Amendments, Notifications and orders*
  9. *Timothy, Dallen J., Cultural Heritage and Tourism: An Introduction*
  10. *UNESCO, Managing tourism at World Heritage Sites*
  11. *UNESCO 1972, Convention concerning the protection of the World Cultural and Natural Heritage: adopted by the General Conference at its 17th session, Paris.*
  12. *UNESCO, 2003, Operational Guidelines for the implementation of World Heritage Convention, World Heritage Centre.*
  13. *E.F.N. Ribeiro, The Law and the Conservation of Man-made Heritage in India, 1989.*
  14. *Routledge, (2020) Heritage Conservation in Postcolonial India: Approaches and Challenges, Edited By Manish Chalana, Ashima Krishna*
  15. *Feilden, B.M.; Jokilehto, Jukka, Management Guidelines for World Cultural Heritage Sites ICCROM, 2005*



**FIFTH YEAR (SEMESTER – IX)**

A S 9 5 9 EL42				Elective – IV (Architectural Journalism)											
Teaching Scheme				Internal Assessment						External Examination				TOTAL MARKS	D
L	T	P	S	CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL		
2	1	0	0	5	10	10	10	15	50	50			50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Use skills of journalism to enhance documentation and analytical ability.
2. Develop effective architectural critique and specialized career options.
3. Imbibe enhanced writing skills for effective expression.
4. Understand issues such as copyright, public art policy, editing etc.

**COURSE CONTENTS**

**(45 contact periods )**

**UNIT I: Introduction to Architectural Journalism**

*(10 contact periods)*

Introduction to journalism, key concepts and objectives of journalism. Journalism skills: research, reporting, writing, editing, photography, columnists, public relationships, criticism.

**UNIT II: Documentation Tools & Techniques**

*(15 contact periods)*

Documentation of environment, social change, persuasion including interviewing techniques and argumentation speaking. Guidelines for documentation, code of ethics and basic knowledge on press laws, Press Council of India multimedia/online journalism and digital developments. Discussions on topics required in an architectural journal and current issues. Understanding the individual demands in the context of newspapers, radio, film, television and social media.

**UNIT III: Architecture Photography**

*(10 contact periods)*

Photojournalism and the contributions of photography to the professional practice of architects. Introduction to software needed in journalism and photography, video coverage, walk-through of buildings, production of contemporary architectural journalism. Exercise on integrating photography in architectural journalism.

**UNIT IV: Practicing Journalism**

*(10 contact periods)*

Role of an architectural journalist as a reporter, reviewer, cartoonist and a feature writer. Issues related to code of ethics, copyright, royalty, publishing rights and policies. Citation and plagiarism. Works of Indian and International writers and critics to be presented and discussed.

*Note: In addition to the writing exercises, the students should interact with architectural journalists, to share their experience and perspective. Further, visits to various media houses should be arranged, to explain the process of publishing.*



**NOTE TO EXAMINER:**

**THEORY PAPER** (Conducted by University)

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. Wiseman, Carter (2016), *Writing Architecture: A practical guide to clear communication about built environment*, Trinity University Press.
2. Lange, Alexandra (2012), *Writing about Architecture: Mastering the Language of Buildings and Cities*, Princeton Architectural Press.
3. Musa, Majd, Al-Asad, Mohammad (2007), *Architectural Criticism and Journalism*, Umberto Allemandi & Co.
4. Ward, S.J.A, *Philosophical Foundations of Global Journalism Ethics*, *Journal of Mass Media Ethics*, Vol.20, NO.1,3-21,2005.
5. M.Harris, *Professional Architectural Photography*, Focal Press,2002.
6. Foust, James, *Online Journalism, Principles and Practices of News for the Web*, Holcomb Hathaway Publishers, Scottsdale, AZ,2005.
7. Edward Jay Friedlander and John Lee, *Feature Writing for newspapers and magazines*, 4th edition, Longman,2000

**FIFTH YEAR (SEMESTER – IX)**

A S 9 5 9 T 1					Architectural Design Thesis – I							TOTAL MARKS	D
Teaching Scheme					Internal Assessment			External Examination					
L	T	P	S		CP	Internal Jury	IA TOTAL	T	J	V	EE TOTAL		
0	0	0	4		14	126	140		60		60	200	-

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Understand different aspects and trends of the selected thesis project through literature review and case studies.
2. Prepare a student to independently handle and present all aspects of an architectural design, from its evolution to final solution in totality.
3. Understand the importance of the evolutionary stages of a design process and various techniques required for a successful presentation of an architectural design.
4. Develop in students the ability to handle specific aspects/ thrust area of design relevant to the topic.

**COURSE CONTENTS***(60 Contact Periods)*

Students are to select architectural topics of individual interest reflecting social and technological considerations. The topics so chosen should be subjected to discussions and criticisms by a panel of teachers from time to time.

The students should take help from the Thesis Coordinator and the panel of teachers from time to time pertaining to the formulation of the action plan including methodology of selection of the topics, case studies, site selection, functional requirements, design methodologies, drafting procedure, and defense techniques.

Stage I - At the mid semester, each student would be required to make a formal presentation on the chosen topics (minimum THREE). Each suggested topic shall include the **brief of the project, its scope, need, importance and validity along with aims and objectives of the thesis project, duly supported by maps and plans.** Thesis Guide, Thesis Coordinator and External Jury shall approve **ONE topic** for the subject of the Thesis.

Stage II - After the finalization of topic in mid semester jury, students will have to work on the following:

1. Background research including Literature Study, Case Studies and Site Study.
2. Synopsis – the preparation and approval of the Subject Idea.
3. Research – encompassing all relevant aspects of the project – historical, social, cultural, environmental, architectural, etc.

*\*Detailed teaching program/ lesson plan shall be made and circulated to the students at the commencement of the semester - refer ANNEXURE 'B'*

**NOTE TO FACULTY:****STUDIO**

1. At least **THREE (3)** topics to be chosen by the student out of which **ONE (1)** topic shall be finalized by the Thesis Guide and one external examiner member.
2. Thesis Guide shall be drawn from the core faculty of the School. A group of students will be allocated to each Thesis Guide whose consent for their respective Thesis subjects is necessary



*NOTE TO EXAMINER:*

*JURY*

1. *Exam shall be an Open Jury type. One jury to take place at the time of topic selection and other at the end of semester if required.*
2. *Jury shall examine the displayed work done by the student in mid semester for topic selection and full semester work for the chosen topic at end semester.*
3. *The duration of the Jury shall be the time taken to examine all the students.*
4. *Minimum passing marks: Fifty percent.*

*SUGGESTED BOOKS:*

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. *How to write dissertations and project reports By McMillan, K. & Weyers, J. (2007), Pearson Prentice Hall.*
2. *Writing a thesis: a guide to long essays and dissertations, London By Watson, G. (1987), Longman.*



**FIFTH YEAR (SEMESTER – IX)**

A S 9 5 9 M 1					MOOC Open Elective – I							TOTAL MARKS	D
Teaching Scheme					Internal Assessment			External Examination					
L	T	P	S		CP	On successful completion of Course	IA TOTAL	T	J	V	EE TOTAL (MOOC)		
3	0	0	0		-	-	-	-			100	100	-

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Enhance and update knowledge.
2. Provide an opportunity to take up any course of interest.
3. Stay relevant to the current times.

**COURSE CONTENTS**

**(12 weeks)**

Open Elective course(s) shall be taken up by the student independently. There shall be no classwork held in the School for such courses.

Such course(s) shall have to be approved by the Principal/ HOD of the School in coordination with assigned course coordinator. Decision of approving or not approving any open course shall be taken by the Principal/ H.O.D. of the School.

Students are to select courses of individual interest. The course(s) thus selected shall be of a minimum duration of 12 weeks.

Moocs have to be selected from NPTEL/SWAYAM/ARPIT etc.





**ANNEXURE - IV**

S.No.	Course Code	Course Title	Teaching Scheme				Examination Scheme			
			L	T	P	S	IA	EE	TOTAL	D
<b>SEMESTER – X</b>										
1	AS10510PM	Professional Practice & Management	2	1	0	0	50	50	<b>100</b>	3
2	AS10510DM	Disaster Management	0	0	0	15	50	50	<b>100</b>	3
3	AS10510T2	Architectural Design Thesis - II	0	0	0	15	560	240	<b>800</b>	-
<b>TOTAL</b>			2	1	0	15	660	340	<b>1000</b>	3

**FIFTH YEAR (SEMESTER – X)**

A S 10 5 10 P M					Professional Practice & Management										TOTAL MARKS
Teaching Scheme					Internal Assessment					External Examination					
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J	V	EE TOTAL	
2	1	0	0		5	10	10	10	15	50	50			50	100

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Understand the professional responsibilities, ethics & liabilities of the Architectural Profession.
2. Understand the process of Contract management in architectural projects.
3. Apply the acquired knowledge in achieving fair practices.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Introduction***(10 Contact Periods)*

Architecture as profession; Professional bodies with Detailed Study of the Architects' Act 1972, Council of Architecture and its role.

**Unit-II: Architect's Office & Practices***(12 Contact Periods)*

An architect's office, engagement & scale of professional fees of an architect; Architectural competitions; Code of professional conduct and complaint against architects.

**Unit-III: Tendering & Contract Management***(12 Contact Periods)*

Tendering process – tenders their needs and types, Preparation of tender documents and procedure for awarding tenders and award of projects.

Contract agreement and execution; types of building contracts, Easements and dilapidations.

**Unit-IV: Valuation & Arbitration***(11 Contact Periods)*

Concept of Valuation, Types & techniques of valuation.

Concept & need of Arbitration and conciliation, Role of arbitrator. Procedure of arbitration etc.

**NOTE TO EXAMINER:**

*THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent

**SUGGESTED BOOKS:**

For consulting books on the above-mentioned topics, kindly refer the following Books:

1. *Professional Practice of Architecture* By S. C. Garg and Yogesh K. Garg
2. *The Architect's Handbook of Professional Practice* By Joseph A. Demkin
3. *Architects' Professional Practice Handbook For Students of Architecture* By R. Mohan Chundur

**FIFTH YEAR (SEMESTER – X)**

A S 9 5 9 EL43					Disaster Management												
Teaching Scheme					Internal Assessment					External Examination			TOTAL MARKS	D			
L	T	P	S		CP	CA-I	CA-II	CA-III	MT	IA TOTAL	T	J			V	EE TOTAL	
2	1	0	0		5	10	10	10	15	50	50				50	100	3

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Understand the process of Disaster management, mitigation, and preparedness.
2. Understand techniques of monitoring and design against the disasters.
3. Apply the gained knowledge in designing structures.

**COURSE CONTENTS***(45 Contact Periods)***Unit-I: Disaster Types, Characteristics And Their Causes***(12 Contact Periods)*

Concept of disaster; Building Safety from Natural Hazards/ Types of Disaster (natural and manmade): Earthquake, Fire, Cyclone, Flood, Landslide, Land subsidence etc.; Seismology, Earthquake occurrence in the world, plate tectonics, faults, earthquake hazard maps in India; Causes of earthquakes, seismic waves, magnitude intensity, epicenter and energy release, characteristics of strong earthquake ground motions.

**Unit-II: Shape and Form Of Buildings***(09Contact Periods)*

Building shapes, Architectural features, and design of building in seismic zones; Effects of Earthquake on buildings; Indian Seismic Codes; Different types of Building such as structures of - Brick Masonry, Stone Masonry, Reinforced concrete etc.; Elements to make buildings Earthquake Safe; Fire: Causes and precautions for fire safety in different type of building, BIS code for fire safety; Flood: Design of building for flood zones.

**Unit-III: Disaster Preparedness & response***(12 Contact Periods)*

Techniques of monitoring and design against the disasters; Disaster Management Act, guidelines NDMA. Vulnerability Assessment & warning systems for above said disaster types. Programmes and studies for disaster reduction.

**Unit-IV: Disaster Mitigation***(12Contact Periods)*

Management issues related to disaster, mitigation through capacity building; Legislative responsibilities of governments in disasters; Disaster mapping, assessment, pre-disaster risk and vulnerability reduction; Post disaster recovery and rehabilitation; Disaster related infrastructure development; Remote-sensing and GIS applications in real time disaster monitoring, prevention, and rehabilitation.

**NOTE TO EXAMINER:***THEORY PAPER (Conducted by University)*

1. There should be total eight (8) questions of 10 marks each, selecting two (2) from each unit.
2. The students have to attempt Five (5) questions selecting at least one (1) question from each unit.
3. Minimum passing marks: Fifty percent



**SUGGESTED BOOKS:**

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. *BIS maps/ code books.*
2. *Manuals of National Disaster management Authority*
3. *“Disaster Management in the Hills”, Dr. Satendra, Concept Publishing Company, 2003.*
4. *“Disaster Management”, Harsh K. Gupta, Universities Press, 2003. •*
5. *“Natural Hazards and Disaster Management: Vulnerability and Mitigation”, R. B. Singh, Rawat; Reprint edition, 2006.*
6. *“Proceedings of the National Conference on Disaster & Technology, 1998, Manipal, India”, Nirmita Mehrotra, 1998.*
7. *“Disaster Risk Reduction in South Asia”, Sahni, Pardeep, Ariyabandu and Madhavi Malalgoda.*

**FIFTH YEAR (SEMESTER – X)**

A S 10 5 10 T 2					Architectural Design Thesis – II							TOTAL MARKS	D
Teaching Scheme					Internal Assessment			External Examination					
L	T	P	S		CP	Internal Jury	IA TOTAL	T	J	V	EE TOTAL		
0	0	0	15		56	504	560		240		240	800	-

**COURSE OUTCOMES**

After successful completion of this course, students shall be able to;

1. Provide an architectural design solution to a significant problem.
2. Include a substantive, well-written, thoroughly researched, and documented thesis that firmly establishes the relevant contextual basis for the problem and its solution.
3. Demonstrate comprehensive design skills and oratory capabilities in final presentation.
4. Clearly demonstrate the major steps in the design process, required to take informed design decisions relevant to the solution.

**COURSE CONTENTS***(225 Contact Periods)*

The Thesis Project provides the final-year student with an opportunity to develop an architectural project that is bold, visionary, and enduring as it is based on a thorough research and context. It is intended to mark the culmination of the student's creative, intellectual, and technical development at the School.

The Thesis Project is generally expected to be completed in six months from the approval of the subject by the Thesis Guide. Thesis Guide shall be drawn from the core faculty of the School. A group of students will be allocated to each Thesis Guide whose consent for their respective Thesis subjects is necessary. For the overall benefit of the student, an Expert Guide (from the industry) shall also be assigned to the student.

All students doing their Thesis are expected to meet regularly with their Thesis Guide and Expert Guide to update progress, address problems, and clarify direction. However, such students can also meet individually or in groups with other members of the Core Faculty or any other resource person(s) to participate in the collegial exchange of ideas.

The Thesis Project shall be a project based on the subject chosen by the student in Architectural Thesis – I and the one approved by the thesis guide, thesis coordinator and external jury in previous semester.

The Thesis Project shall comprise the following five phases (though it is expected that some of these phases will overlap) in continuation to the work done in Architectural Design Thesis I in previous semester:

1. Design Stage I – Conceptual Design
2. Design Stage II – Design Development
3. Design Stage III – Final Design

The detail of each stage to be provided in thesis manual separately –refer ANNEXURE 'B'

**NOTE TO FACULTY:****STUDIO**

1. Thesis Guide shall be drawn from the core faculty of the School. A group of students will be allocated to each Thesis Guide whose consent for their respective Thesis subjects is necessary.
2. An Expert Guide who comes from the industry (Practicing Architect and/or Academician Architect) shall also be assigned to the group of students for their overall benefit.
3. The Thesis Guide shall guide the student during the thesis project through scheduled meetings on a weekly basis. The Expert Guide shall guide the student from the industry perspective, through scheduled meetings on a weekly and/or fortnightly basis. The Thesis Co-coordinator will co-ordinate the Thesis Programme and will also participate in all stages of Internal Evaluation of the Thesis.



**NOTE TO EXAMINER:**

**JURY**

1. *Exam shall be an Open Jury type.*
2. *Jury shall examine the displayed work done by the student in full semester.*
3. *The duration of the Jury shall be the time taken to examine all the students.*
4. *Minimum passing marks: Fifty percent.*

**SUGGESTED BOOKS:**

*For consulting books on the above-mentioned topics, kindly refer the following Books:*

1. *Architecture Thesis Book By Camden Wade*
2. *How to write a better thesis By Evans, D & Gruba, P (2002), 2nd Edition, Melbourne University Press.*
3. *Architecture Thesis Book - Architecture as a Cultural Catalyst By L. Marcelino Ruiz.*
4. *Architecture Thesis Book By Alex Monzó.*
5. *Reading Material as appropriate for each individual thesis.*