ARCH 701: ARCHITECTURAL DESIGN – VI

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 50%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH701	PC	AR	STUDIO	ARCHITECTURAL DESIGN VI			8	8					200	200	400	400	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS; MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

4THYEAR / VII Semester

ARCH 701: ARCHITECTURAL DESIGN – VI

Syllabus: 15 weeks (8 hours/week) Total Teaching hours: 120 Hr.

COURSE OBJECTIVE:
To develop abilities in design in the context of user requirements.

COURSE OUTCOME:
At the end of the course, students will be able to –
- Establish a relationship of a proposed project in the urban context
- Analyze institutional character, abstraction & design development
- Integrate building systems into the design
- Prepare the detailed architectural design of the proposed building

EXPECTED SKILLS / KNOWLEDGE the TRANSFERRED:
Design vocabulary, enhancement and sensitization of students in design preparation and its relation to structural systems

After completion of this course, the student will be able to:
1. To classify context-oriented design, innovative systems and integrated approaches in campus planning.
2. Using a survey to understand and analyze user perception, multiple stakeholders' needs and environmental behavioural responses.
3. Understanding large-scale master planning tools and techniques with parameters of topography, climate and Infrastructure development.
4. To learn landscape as a tool to achieve sustainability goals as well as build a healthier environment.
5. To develop environment management strategies considering the measurement of ecological services and Environment economics.

COURSE OVERVIEW:
The course aims at teaching the design of buildings for passive recreation and large-span buildings for public use.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
DESIGN 1		• **Theme & focus of design:** Study & analysis of various latest technologies in large-scale Architecture; Understanding, exploration & development of design programme, concept & detailed design with a focus on Prefab. • **Basic Components:** Behavioral Science; Functionality; Building Materials; Theory of Design; Form Development; Tectonic decisions: Structures, Building Materials, Services; Site Planning; Building Control Regulations; Inclusive Design; Design Communication. • **Non-linear Designs:** Importance, Exploring & Understanding the essence; detailing process; User analysis; Elements; functionality, aesthetics; Materials.	

ARCH 701: ARCHITECTURAL DESIGN – VI

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH701	PC	AR	STUDIO	ARCHITECTURAL DESIGN VI			8	8					200	200	400	400	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

		This Minor Exercise will be represented through conceptual development (sketches, physical & digital models). • **Design Analysis:** Exploration & analysis of works of iconic High-tech Architecture; Understanding design philosophy & process; Learning from design quality, Literature/book reviews; Architectural critiques. • **Design Exercise:** Campus Design /Building Complex Design. The complexity of design: Large-scale Institutional / Commercial / Industrial / Housing / Public use project of diversified activities with a focus on horizontal & / or vertical circulation & grid planning. Typology: Campus, Housing, Institutions, Government complexes/offices, Multi-Level Car Park. Site extent: Up to 20000 m2.
2	Service-oriented building	• Design development of structures and services of a complex building design. Relationship of different functional, service and movement areas for User groups. Awareness and applications of Environmental Concerns and Energy Efficiency. Design Exercise: Design the problem of a building involving a high level of services and advanced structural systems eg. Hotels, Health care like hospitals, clinics, asylum, well-being like spas, saunas, sports facility buildings, veterinary hospitals etc.
3	Conservation / Reuse /Urban Insert	• Urban Insert Developing the understanding of urban sector Issues regarding structure, building composition its correlation with part and whole and infrastructure Building laws and controls, Building typology and morphology Principles of conservation and reuse of buildings in given context Building expressions in relation to tradition and modern times Urban insert, the relationship of the proposed building to the surrounding built form character Design Exercise: New building in historic context, conservation, reuse of building
4	Layout and design of commercial spaces	• Commercial Building Developing an understanding of basic commercial building concepts by multi-functionality of buildings. Methods of building with several combinations of materials. To integrate detailed requirements, careful site analysis and functional design to produce corporate identities and creative spirits. Introduction to urban development control regulation, codes and bye-laws. Design Exercise: The subject may include shopping complexes, malls, Grocery stores, multiplexes, office buildings etc.
5	Green building & Design of public spaces	• Design Exercise: Design involving advanced climatic responsive building, Green Rating building, Bio-mimicry, Mobile Building, Based on New material-

ARCH 701: ARCHITECTURAL DESIGN – VI

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH701	PC	AR	STUDIO	ARCHITECTURAL DESIGN VI			8	8					200	200	400	400	

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strategy etc. Issue-based or live project-based Design Exercise: Involving Rehabilitation project, riverfront development, Lack front development etc.

GUIDELINES

One Major And Minor task/ exercises are to be set from the entire syllabus
The topic of the project is to be displayed on the Institute Notice Board fifteen days in advance OF the commencement of the classes

NOTE :

The following studio topics as mentioned below will be given as an optional module for students to choose in an urban context. Students can choose any one topic out of the 4 topics that will be offered.
Necessary theoretical inputs are to be given highlighting the norms and design issues. The topics not covered as design problems will have to be covered by the Studio faculty members through lecture/slideshow sessions and site visits.
At least one major exercise and one minor design with two-time problems should be given.
The final submission shall necessarily include a model for at least one of the two main problems.
In the end, in an exam which is a viva-voce, the students have to present the entire semester's work for assessment.
Evaluation is to be done through viva voce by an external examiner appointed by the university at Institute. Portfolios, after the university exam, shall be retained at the Institute level for the viva-voice

SUGGESTED READINGS:

Bousmaha Baiche & Nicholas Walliman, Neufert Architect's data, Blackwell Science Ltd.
Building Code – ISI
Chiara Joseph de and Others. Time Savers Standards of Building Types. McGraw – Hill, 1990.
Ching, Francis D.K. Architecture: Form, Space, and Order, 2nd Ed. Van Nostrand Reinhold, New York, 1996.
Criss B. Mills, Designing with models: A Studio Guide to making & using architectural models, Thomson & Wadsworth, USA,2000.
DeChiara and Callender, Time-saver standards for building types, Mc Graw Hill Company
Hanks, A. David. Decorative Designs of Frank Lloyd Wright, Dover Publications, Inc. New York, 1999.
Hepler, E. Donald, Wallach, I. Paul. Architecture Drafting and Design, 3rd Ed. McGraw-Hill Book Company, New York, 1977.
Itten, Johannes. Design and Form: The basic course at the Bauhaus, Thames and Hudson Ltd., London 1997.
Kirk, Paul Hayden and Sternberg, D. Eugene. Doctors Offices and Clinics, 2nd Ed. Reinhold Pub., USA, 1960.
Krier, Rob. Architectural Composition, Academy Editions, London, 1988.
Maier Manfired Basic Principles of Design, Vol.1, 2, 3 & 4, Van Nostrand Reinhold, NY. (1977)
Meiss, Pierre Von. Elements of Architecture: From Form to place, E and FN Spon, London, 1992.
Mike w.Lin, Drawing & Designing with confidence – A step by step guide, John Wiley & Sons, USA,1998.
Neufert, Ernst. Ernst Neufert Architects Data, Granada Pub. Ltd., London,2000.
Peloquin, Albert. Barrier-Free Residential Design. McGraw-Hill, Inc., New York,1994.
Pevsner, Nikolaus. A History of Building Types. Thames and Hudson, London,1976.
Ramsey / Sleeper, National Architectural graphic standards, The American Institute of Architects
Sam F Miller, Design process– Van Nostrand Reinhold
Shah, S. Charanjit. Architects Hand Book Ready Reckoner. Galogotia Pub., New Delhi, 1996.
Smithies, K.W. Principles of Design in Architecture. Chapman and Hall, 1983.
Untermann, Richard and Small, Robert. Site Planning for Cluster Housing.
Wucius, Wong. Principles of Two-Dimensional Design. Van Nostrand Reinhold 1972.
Time-saver standards for building types, DeChiara and Callender, McGraw Hill Company
National Building Code - ISI
Patricia Tutt and David Adler, New Metric Handbook — The Architectural Press
Chiara Joseph de and Others. Time Savers Standards of Building Types.McGraw – Hill, 1980.
Dawes, John. Design and Planning for Swimming Pools. The Architectural Press, London, 1979.
Ruknitein, M. Harvey. Central City Malls.
Daniel Williams, "Sustainable Design: Ecology, Architecture & Planning", John Wiley & Sons, 2007

ARCH 701: ARCHITECTURAL DESIGN – VI

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
					L	T	S	CREDIT	THEORY				STUDIO				
									2 -TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH701	PC	AR	STUDIO	ARCHITECTURAL DESIGN VI			8	8					200	200	400	400	

L - THEORY, S- STUDIO, T -TUTORIAL, C - CREDIT, HRS HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

Lynch, Kevin, "The Image of the City", MIT Press, Cambridge, Mass., 1960.
Krier, Rob, "Urban Space", Academy Editions, London,1967
Koenigsberger, et al., "Manual of Tropical Housing & Building: Part I - Climatic Design", Orient Longman, Chennai, 1984.
Evans, Martin, "Housing, Climate and Comfort". The Architectural Press, London, 1980
Kishan, Baker and Szokolay, Climate Responsive Architecture. Tata McGraw Hill, 2002
Charles Correa, "A Place in the Shade: The New Landscape & Other Essays",2010
Charles Correa, "Housing and Urbanization",2000, Thames and Hudson
Christopher Benninger," Architecture to Modern India",2016
Raj Rewal, "Humane Habitat at Low Cost: CIDCO, Belapur", New Mumbai,2000,

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY CUM STUDIO									INT	EX		INT	EX				
ARCH 702	PC	AR	THEORY CUM STUDIO	HOUSING	1		2	3	30	30	60	120	15	15	30	150	3

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT; HRS HOURS; MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 702: HOUSING

Syllabus: 15 weeks (3 hours/week) Total Teaching hours: 45 Hrs.

COURSE OBJECTIVE:

Understanding the various issues involved in planning knowledge design solutions

COURSE OUTCOME:

At the end of the course, students will be able to –

- Infer the importance of the "house and housing" as a basic need of the people.
- Discover the evolution of various housing typologies at their merits and demerits
- Create different design alternatives, appropriate material construction technology, appropriate to the context and socio-cultural attribution of the people

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

To understand the techniques of constructing Steel and Pre-Fab, staircases and partitions using different materials

COURSE OVERVIEW:

To create awareness about the causes and consequences of housing problems and to impart knowledge about the possible solutions.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1		• Overview of housing:	2hrs
2		• Housing Issues:	3hrs
3		• Housing legislation:	5hrs
4		• Housing Economics:	5hrs
5		• Case Studies:	5hrs
		II Housing Design: Issues to be addressed for the design project about housing design: · Density, mixed land use, ground coverage, and development controls. · Urban systems, services and their integration with the project. · User requirements (derived from surveys) · Issues with inappropriate technology and costs. · Issues of hierarchy, the identity of space, and public and private scales of space. Integration of community institutions etc. · Detailing for the disabled and the elderly. · Indian / local architectural responses to climate, culture, traditional values, building elements, symbols motifs and special character. • Design exercise related to housing design for specific target groups.	25 hrs

ARCH 702: HOUSING

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY CUM STUDIO									INT	EX		INT	EX				
ARCH702	PC	AR	THEORY CUM STUDIO	HOUSING	1		2	3	30	30	60	120	15	15	30	150	3

L - THEORY, S- STUDIO, T -TUTORIAL, C - CREDIT, HRS HOURS, MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

GUIDELINE2S

One Major And Minor task/ exercises are to be set from the entire syllabus
The topic of the project is to be displayed on the Institute Notice Board fifteen days in advance OF the commencement of the classes

NOTE :

Students would need to undertake one of the design subjects for the studio exercise. Students may be required to develop a brief, and translate it into requirements and design. One Major design exercise should be given.

The evaluation shall be through periodic internal reviews. The final submission will include a brief report of about 1000 words explaining the concept and design proposals for the main portfolio. It will also include a model.

Evaluation is to be done through viva voce by an external examiner appointed by the university at Institute. Portfolios, after the university exam, shall be retained at the Institute level for the viva-voice

SUGGESTED READINGS:

Alexander, Christopher. A pattern language: Towns, Buildings, Construction. Oxford University Press, New York.
Richard. D. Dober. Campus Architecture: Building in the Groves of Academy.McGraw Hill, New York, 1996.
Chiara, De Joseph and Others. Timesavers standard for Housing and Residential Development, 2nd ed. McGraw Hill, Inc, New York.
Newman, Oscar and Others. Defensible space: People and Design in violent City. Architectural Press, London, 1972.

ARCH 703: ADVANCED BUILDING CONSTRUCTION

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY CUM STUDIO									INT	EX		INT	EX				
ARCH703	BS&AE	AR	THEORY CUM STUDIO	ADVANCED BUILDING CONSTRUCTION	1		1	2	20	20	40	80	10	10	20	100	3

L - THEORY, S- STUDIO, T -TUTORIAL, C - CREDIT, HRS- HOURS, MST - MIDTERM TEST, AMST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 703: ADVANCED BUILDING CONSTRUCTION

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

To create awareness among the students regarding problems related to old buildings and methods to mitigate their problems. and cope up to work with newer techniques.

COURSE OUTCOME:

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

To understand the techniques of constructing repairs, Steel And Pre Fab, staircases and partitions using different materials

COURSE OVERVIEW:

The course focuses on issues related to failures in buildings, decay and damage, and approaches for maintenance, repairs and renovation of buildings. and introduce new advanced materials and techniques in use

COURSE CONTENTS

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1		**PREFAB** **Introduction to Prefab:**	5hrs
2		**Precast Concrete:** **Substructure & support system:** **Roof & wall systems:**	8hrs
3		**Precast Components:** **FAILURES:** Introduction to building failures: causes of decay and damage in old buildings, issues of maintenance and repair. Preliminary inspection and general observation, decayed elements difference between decay and damage.	6hrs
4		**Timber: Bricks: R.C. Concrete:** **Methodical approach to Repairs:**	6hrs
5		**Unusual problems:** Repairs to large span rooms, waterproofing the roof terraces, leakages from • toilets, case studies and site visits.	5hrs

Note: This is a studio subject and students should be made to document the problems in old buildings through inspections and propose remedial measures by preparing construction drawings as studio exercises with the theoretical inputs given through lectures.
to prepare construction drawings for studio exercises along with the theoretical inputs. The studio work should be supplemented with appropriate site visits for the technology

NOTE:-Emphasis should be laid on understating building evolution and form. The continuous evaluation shall be made of students' work based on various models, assignments and sketching

SUGGESTED READINGS :

A.Agarwal –Mud: The potentials of earth-based material for third world housing – IIED, London 1981**.**
Barry, R. The Construction of Buildings Vol. 2, 5th Ed. East-West Press. New Delhi, 1999.

ARCH 703: ADVANCED BUILDING CONSTRUCTION

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY CUM STUDIO									INT	EX		INT	EX				
ARCH 703	BS&AE	AR	THEORY CUM STUDIO	ADVANCED BUILDING CONSTRUCTION	1		1	2	20	20	40	80	10	10	20	100	3

L - THEORY, S- STUDIO, T-TUTORIAL, C - CREDIT, HRS- HOURS, MSE - MIDTERM TEST, A MSE - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, TA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

Bindra, S P.and Arora, S P. Building Construction: Planning Techniques and methods of Construction, 19th ed. Dhanpat Rai Pub. New Delhi, 2000.
Dr B.C.Punmia – Building construction
Feilden, M. Bernard. Conservation of Historic Buildings. Butterworth Scientific, London, 1992.
Francies D.K.Ching – Building Construction Illustrated. VNR, 1975.
Hailey and Hancock, D.W. Brick Work and Associated Studies Vol. 2. MacMillan, London, 1979.
HUDCO – All you wanted to know about soil stabilized mud blocks, New Delhi, 1989.
McKay J.K. Building Construction Metric Vol. 4, 4th Ed. Orient Longman Pvt. Ltd., Mumbai, 2002.
McKay, W.B. Failures and Repair of Concrete Structures Vol. IV.
Mitchell. Advanced Structures.
Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
R.Chudley – Building Construction Handbook – BLPD, London 1990.
R.Chudley, Construction Technology.
Raikar, R.N. Learning From Failures: Deficiencies in Design. Construction and Service, R and D Centre, New Bombay, 1987.
Rangwala, S.C. Building Construction, 22nd ed. Charotar Pub. House, Anand,2004.
Rangwala, S.C. Engineering Materials: Material Science, 31st Ed. Charotar Pub. House, Anand, 2004.
Sushil Kumar. T.B. of Building Construction, 19th ed. Standard Pub, Delhi, 2003.
Use of Bamboo and a Reed in Construction – UNO Publications
W.B. Mackay – Building Construction Vol 1,2 and 3 – Longmans, UK 1981.
Feilden, M. Bernard. Conservation of Historic Buildings. Butterworth Scientific, London, 1992.
McKay, W.B. Failures and Repair of Concrete Structures Vol. IV.
Raikar, R.N. Learning From Failures: Deficiencies in Design. Construction and
Service, R and D Centre, New Bombay, 1987.

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH705	PC	AR	THEORY /STUDIO	CORE ELECTIVE II			2	2					50	50	100	100	

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ARCH 705: CORE ELECTIVE II

		CORE ELECTIVE II
7 sem	705.1	Precedents in architecture
	705.2	Furniture Design
	705.3	Water in Architecture
	705.4	MOOC

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hr

1. PRECEDENTS IN ARCHITECTURE

COURSE OBJECTIVE:

- The students will know the analysis to understand the designs

COURSE OUTCOME:

At the end of the course, students will be able to -

- The student will develop sensitivity toward design
- The student will develop the capacity for Critical appraisal of the status of building design analytics

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

- to improve analytics

COURSE OVERVIEW:

This course explores drawing skills and technical skills as tools of design thinking, visualization and representation.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
	Precedents in architecture	• It will include an analytical drawing that will involve exploring forms, geometries and proportions. Analytics	5 hrs @ each class

NOTE:-Emphasis should be laid on understating building evolution and form. The continuous evaluation shall be made of students' work based on various models, assignments and sketching

SUGGESTED READINGS:

As relevant

2. FURNITURE DESIGN

COURSE OBJECTIVES:

Students will learn about Furniture Design for designing with Ergonomics & aesthetics in context.

COURSE OUTCOME :

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

Exploring the possibilities of designing furniture with optional Materials and processes.

COURSE OVERVIEW:

The student will be able to Understand elements of furniture in Commercial (Retail) Interiors

ARCH 705: CORE ELECTIVE II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH705	PC	AR	THEORY /STUDIO	CORE ELECTIVE II			2	2					50	50	100	100	

L - THEORY, S- STUDIO, T -TUTORIAL, C - CREDIT, HRS HOURS, MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
	Furniture design	• Elements of Furniture including Shop Fronts, Lighting, Window Display & Signage. Surveying collecting data through live case studies and evaluation of a case study and concluding design parameters. Presentation through detailed sketches, drawings & study models and material board to demonstrate the design process from the conceptual stage to the final furniture product design	5 hrs @ each class

NOTE: Students would need to undertake one of the design subjects for the studio exercise. Students may be required to develop a brief, and translate it into requirements and design. One Major design exercise should be given.

The evaluation shall be through periodic internal reviews. The final submission will include a brief report of about 1000 words explaining the concept and design proposals for the main portfolio. It will also include a model.

Evaluation is to be done through viva voce by an external examiner appointed by the university at Institute. Portfolios, after the university exam, shall be retained at the Institute level for the viva-voice

SUGGESTED READINGS:

As relevant

3. WATER IN ARCHITECTURE

COURSE OBJECTIVES:

The Architecture + Water

COURSE OUTCOME :

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

Sustainable designs and related theory.

COURSE OVERVIEW:

The Architecture + Water

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
	Water in Architecture	• Students will get an understanding of different: City + Architecture: perspectives, How do architecture and water inexact with each other? This question was addressed by a series of projects done in the past and discussions, For much of the centuries, systems were built along rivers and waterfronts often degraded by	5 hrs @ each class

ARCH 705: CORE ELECTIVE II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH705	PC	AR	THEORY /STUDIO	CORE ELECTIVE II			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT; HRS- HOURS, MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

industrialization until cities worldwide began to restore water resources and reconnected urban infrastructure with natural ecosystems. The Architecture + Water

NOTE:-Emphasis should be laid on understating the Principle that continuous evaluation shall be made of students' work based on various models, assignments and sketching

SUGGESTED READINGS:

As relevant

4. MOOC

COURSE OBJECTIVE:

overall nurturing of the student with issues in practice and field outside

COURSE OVERVIEW:

The following is a representative list of what may :
Tutorials/ additional classes for any course on online mode of platforms, Provides knowledge to support student being sensitive to design;

- a paper presentation

COURSE OUTCOME:

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

better grooming than just books and theories.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
		• The creative MOOC provide an opportunity to access a different form of architecture related to imagination, visualization & creation. They offer the experience of unique ingenuity, theory or workmanship. The essence of the creative domain can be achieved by exploring different materials, techniques, and processes; developing creative products/theories; finishing & presenting the product for the concepts evolved. The outcome will be through portfolio & presentations. Where these workshops or MOOCs help them explore the different topics relevant to individual interests and in the palette of choices for the semester	5 hrs @ each class

ARCH 706: CORE ELECTIVE III

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
					L	T	S	CREDIT	THEORY				STUDIO				
									2 -TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH706	PC	AR	THEORY /STUDIO	CORE ELECTIVE III			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 706: CORE ELECTIVE III

	CORE ELECTIVE III	
7 Sem	706.1	Industrial Environs
	706.2	Temporary structures
	706.3	Earth & BAMBOO architecture
	706.4	MOOC

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hr.

1. INDUSTRIAL ENVIRONS

COURSE OBJECTIVE:

- The students will know the planning aspects, materials used in construction, construction details and settlement planning of the settlements in various parts of the country

COURSE OUTCOME:

At the end of the course, students will be able to -

- The student will develop sensitivity towards built heritage
- The student will develop the capacity for Critical appraisal of the status of buildings

COURSE OUTCOME

The students will be able to identify and conserve the untapped values and principles in the evolution of new theories for architectural creations. Highlight needs and various ways of vernacular building research, analysis, presentation of findings and their application to contemporary building

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

- to conserve old buildings of cultural importance

COURSE OVERVIEW:

- To develop an understanding of the importance of historical and heritage buildings

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
	INDUSTRIAL ENVIRONS	Introduction: Classification; History & evolution; Types, Scales, locations, significance & impact- Socio-Cultural & Economic, urban infrastructure, civic amenities, Health impact, Psychological impact, Ownership, management. Scope for Architectural & Inter-professional services. Standards: Environmental concerns - EIA; Resource management; Sustainable practices; Bioclimatic designs; green neighbourhood; Energy efficiency. Acts & legislations- Agencies, pollutions control; Codes & Byelaws, Plant & industry standards. Design criteria: Planning criteria- Masterplan, Site plan, plant layout; Phasing & Future expansion; Space planning for man, material & machinery;	5 hrs @ each class

ARCH 706: CORE ELECTIVE III

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH706	PC	AR	THEORY /STUDIO	CORE ELECTIVE III			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

Safety & hygiene concerns; amenities, facilities; form, massing, enclosure, materials, detailing, aesthetics, Landscapes, parking.

Technical systems: Structural Systems, Construction techniques; Current Innovations. Services- Site, Building & Plant, firefighting, security & surveillance, transportation, waste management.

- Case Studies: Exploration & analysis of different industrial environments; Study of plant systems, spatial organizations, design interventions, technical provisions, relevance, impacts - physical, administrative, socio-cultural, sustainable; future forecasts & trends

NOTE:-Emphasis should be laid on understating building evolution and form. The continuous evaluation shall be made of students' work based on various models, assignments and sketching

SUGGESTED READINGS:

Ilay Cooper, Traditional buildings of India, Thames and Hudson Ltd., London
Kulbushan Jain & Meenakshi Jain, The architecture of the Indian desert, Aadi Centre, Ahmedabad
George Michell, The Royal Palaces of India, Thames and Hudson Ltd., London
S.Muthiah, Meenakshi Meyappan, Visalakshmi Ramaswamy, Chettiar Heritage, LokavaniHallmark Press Pvt. Ltd., Chennai
Encyclopaedia of Vernacular Architecture of the World, Cambridge University Press
V.S.Pramar, Haveli – Wooden houses & mansions of Gujarat, Mapin Publishing Pvt. Ltd., Ahmedabad
The Tradition of Indian architecture – Continuity & Controversy – Change since 1850, G.H.R.Tillotsum, Oxford University Press, Delhi
VISTARA – The architecture of India, Carmen Kagal. Pub: The Festival of India, 1986.
House, Form & Culture, Amos Rappoport, Prentice Hall Inc, 1969.

2. TEMPORARY STRUCTURES

COURSE OBJECTIVES:

Understanding of the various issues involved in planning knowledge design solutions for interiors

COURSE OUTCOME :

At the end of the course, students will be able to –
• relate to different types of “temporary structures”.
• Identify the requirements and importance of the “temporary structures”
• Analyze aspects, and issues to design “temporary structures”

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

To understand the techniques of planning and construction for an interior project using different materials

COURSE OVERVIEW:

The course provides a framework for the discipline by addressing the theoretical, social, historical, technological, and professional aspects of Interior Design.

COURSE CONTENTS:

ARCH 706: CORE ELECTIVE III

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH706	PC	AR	THEORY /STUDIO	CORE ELECTIVE III			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS. HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
	temporary structures	Students will understand different types of "temporary structures", Students will learn the requirements and importance of the "temporary structures", Students will learn various aspects, and issues to designing "temporary structures" • What is a temporary building and what are its requirements? A requirement of the temporary structure concerning Place, environmental, social and cultural dimensions as a designer, Various technics to design temporary buildings • Introduction • What is a temporary building and what are its requirements? • Requirements and importance • Requirement of temporary structure concerning Place, environment, social and cultural dimensions as a designer • Methodology and construction • Various technics for the design and construction of temporary buildings.	5 hrs @ each class

GUIDELINES

One Major And Minor task exercises are to be set from the entire syllabus
The topic of the project is to be displayed on the Institute Notice Board fifteen days in advance OF the commencement of the classes

NOTE :

Students would need to undertake one of the design subjects for the studio exercise. Students may be required to develop a brief, and translate it into requirements and design. One Major design exercise should be given.

The evaluation shall be through periodic internal reviews. The final submission will include a brief report of about 1000 words explaining the concept and design proposals for the main portfolio. It will also include a model.

Evaluation is to be done through viva voce by an external examiner appointed by the university at Institute. Portfolios, after the university exam, shall be retained at the Institute level for the viva-voice

SUGGESTED READINGS:

Archi World. Interior Best Collection: Residence, Commerce, Office, Restaurant Asia I-IV. Archi World Co., Korea, 2003.
Friedmann, Arnold and Others. Interior Design: An Int. to Architectural Interiors.Elsevier, New York, 1979.
Miller, E. William. Basic Drafting for Interior Designers. Van Nostrand Reinhold, New York, 1981.
Kurtich, John and Eakin, Garret. Interior Architecture, Van Nostrand Reinhold, New York, 1993.
Rao, M. Pratap. Interior Design: Principles and Practice, 3rd ed. Standard Pub.,2004.

3. EARTH & BAMBOO ARCHITECTURE

COURSE OBJECTIVES:

The objectives include creating awareness of the need for green buildings and imparting knowledge of designing green buildings, advocating the application of the passive and active use of renewable energy systems and promoting the efficient use of water, materials and waste through the sustainable concept of

ARCH 706: CORE ELECTIVE III

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH706	PC	AR	THEORY /STUDIO	CORE ELECTIVE III			2	2					50	50	100	100	

L - THEORY; S- STUDIO; T -TUTORIAL; C - CREDIT; HRS HOURS; MST - MIDTERM TEST; A MST - AVERAGE OF MIDTERM; ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE; SS- FOLIO FINAL Sessional (INTERNAL); EV - EXTERNAL VIVA VOICE; RVW - INTERMEDIATE REVIEW

reducing, Recycling and Reuse.

COURSE OUTCOME :

At the end of the course, students will be able to –

- Relate to "Bamboo" as material and different types of "Bamboo" and their qualities.
- Interpret the importance of bamboo as a construction material.
- Apply different construction techniques using bamboo as a construction material.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

Sustainable designs and related theory.

COURSE OVERVIEW:

A growing worldwide concern for the conservation of energy & the environment has led to the emphasis on sustainable habitats as a key solution to growing urban concerns. Sustainable architecture aims to create an environmentally–friendly and energy-efficient building by actively harnessing renewable natural sources of energy (solar energy etc) and utilizing materials that least pollute the environment.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1	Earth Architecture	Students will understand different types of "Earth structures", Students will learn the requirements and importance of the "Earth structures", Students will learn various aspects, and issues to designing "Earth structures" • What is an Earth building and what are its requirements? A requirement of Earth structure concerning Place, environmental, social and cultural dimensions as a designer, Various technics to design Earth buildings	5 hrs @ each class
2	Bamboo construction	Students will understand different types of "Bamboo" and their qualities, Students will learn how to build with bamboo as a construction material Learning how to use bamboo as a building material, Applying the proper construction methodologies for the task at hand, Solving problems as they arise, Setting priorities and keeping work on schedule	
3		Introduction • Bamboo as a building material and its different types. • Qualities and properties of different types of Bamboo as a construction material. Design and construction methodology. (Part 1) • Designing with bamboo. • Applying the proper construction methodologies for the task at hand. Design and construction methodology. (Part 2) • Solving problems as they arise Setting priorities and keeping work on schedule.	

NOTE:-Emphasis should be laid on understating the Principle that continuous evaluation shall be made of students' work based on various models, assignments and sketching

ARCH 706: CORE ELECTIVE III

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCH706	PC	AR	THEORY /STUDIO	CORE ELECTIVE III			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

SUGGESTED READINGS:

Arvind Krishnan & Others – Climate Responsive Architecture, Tata Mcgraw –Hill New Delhi 2001.
Lawson. B, Building Materials, Energy And The Environment; Towards Ecologically Sustainable Development Raia, Act, 1996
Ralph M.Lebens – Passive Solar Architecture in Europe – 2, Architecture Press, London 1983.
Sandra Mendler, William Odell, The Guide Book Of Sustainable Design, John Wiley & Sons, 2000.
Sustainable design manual, Vols 1& 2, The energy and Resource Institute, New Delhi.
Traditional bamboo housing in Asia.
Mari Tanaka, Daisuke Niwa, Naohiko Yamamoto and Shuji Funo, Bamboo as a Building Material in Japan: Transition and Contemporary use.
H.N. Jagadeesh and P.M. Ganapathy, Traditional Bamboo-based Walling/Flooring Systems in Buildings and Research Needs.
Karen Edwards and Hcny Doing, The Importance of Bamboo and Housing Construction: A Case Study in Flores.
Oscar Arce, Bamboo Housing in Seismic-prone Areas/
Emmanuel D. Bello and Florence Pascua-Soriano, Typhoon-resistant Bamboo Housing in the Philippines.
Purwito, The Application of Bamboo for Earthquake-resistant Houses.
Oscar Hidalgo, Study of Mechanical Properties of Bamboo and its use as Concrete Reinforcement: Problems and Solutions.

4. MOOC

COURSE OBJECTIVE:

overall nurturing of the student with issues in practice and field outside

COURSE OVERVIEW:

The following is a representative list of what may :
Tutorials/ additional classes for any course on online mode of platforms, Provides knowledge to support student being sensitive to design;

- a paper presentation

COURSE OUTCOME:

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

better grooming than just books and theories.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
		• The creative MOOC provide an opportunity to access a different form of architecture related to imagination, visualization & creation. They offer the experience of unique ingenuity, theory or workmanship. The essence of the creative domain can be achieved by exploring different materials, techniques, and processes; developing creative products/theories; finishing & presenting the product for the concepts evolved. The outcome will be through portfolio & presentations. Where these workshops or MOOCs help them explore the different topics relevant to individual interests and in the palette of choices for the semester	5 hrs @ each class

ARCH 708: ENTREPRENEURSHIP SKILLS FOR ARCHITECTS

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
SEMINAR									INT	EX		INT	EX				
ARCH 708	SEC	TE	SEMINAR	ENTREPRENEURSHIP SKILLS FOR ARCHITECTS	2			2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS; MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 708: ENTREPRENEURSHIP SKILLS FOR ARCHITECTS

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

To introduce set up for business as an architect, to develop the creative and leadership skills for the same and to develop the confidence and skills in preparing business plans and to propose and sell ideas to potential clients and investors.

COURSE OUTCOME :

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:
to propose and sell ideas to potential clients and investors.

COURSE OVERVIEW:

To make an effort to develop the personality of the individual as a pragmatic and forceful professional.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1		Introduction to entrepreneurship; leadership skills and self-motivation; marketing and finance management; starting a small business; future-oriented design principles to increase the design organization's innovative and competitive qualities; Sustainability; Risk-taking; Job procurement; Employee management; marketing; Social entrepreneurship and its relevance to the practice of architecture.	5 hrs
2		The student is allowed to apply the knowledge gained to a real-life architectural project. The student will have to identify and acquire a small live project (such as a residence, dispensary, playschool, small shopping complex, etc.) and perform all professional obligations like preparing sanction drawings, presentation drawings, technical drawings, and working drawings, specifications and detailed estimates. The student would also make structural drawings and detailed building services drawings with respective estimates. The student will have to identify a professional mentor; either a practising architect and/or an architect from the architecture department of any government /semi-government/public sector undertaking. Also, there shall be a faculty member(s) to coordinate, guide, and mentor the progress of the student.	5 hrs
3		Introduction to leadership skills, creativity, self-motivation, administration, time management, marketing, finance management, people skills and starting a business.	5 hrs

ARCH 708: ENTREPRENEURSHIP SKILLS FOR ARCHITECTS

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
SEMINAR									INT	EX		INT	EX				
ARCH 708	SEC	TE	SEMINAR	ENTREPRENEURSHIP SKILLS FOR ARCHITECTS	2			2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

4	Understanding of future-oriented decision-making principles to increase the organization's innovative and competitive qualities, redefinition of problems, user experience, rapid prototyping, multidisciplinary entrepreneurship skills, and risk-taking financial, social and environmental risks. Understanding of job procurement, cash flow, costing, risk assessment and employee management. Study of branding, use of social media, and advertising, public speaking, and human resource management.	5 hrs
5	Study of industry organizations – private, government, NGO. Design and make presentations on a strategic business model for a design and innovation challenge in the context of the current design and social situation. Design and develop business plans and propose ideas to potential clients and investors.	5 hrs

SUGGESTED READINGS:

https://www.athensjournals.gr/architecture/2016-2-1-1-Vosloo.pdf

https://archipreneur.com/why-entrepreneurship-needs-a-place-in-architectural-education/

as per requirement

ARCH 709: BUILDING SOCIOLOGY AND ECONOMICS

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH709	PC	AR	THEORY	BUILDING SOCIOLOGY AND ECONOMICS	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT; HRS HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 709: BUILDING SOCIOLOGY AND ECONOMICS

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

Students will understand the fundamental concepts and theories of sociology, and economics and apply them in their design projects.

COURSE OUTCOME:

At the end of the course, students will be able to:
To introduce the economics and sociological aspects of architecture.
Students will use the sociological imagination to see how features of your personal, everyday life are linked to ongoing processes of social organization and coordination, and why developing a systematic knowledge of society matters.
• The student will articulate basic concepts, theories, and modes of explanation from the discipline of sociology, and economics and apply them to features of society and your own life. develop an understanding of the role of economics in architecture, understanding the role of different services, service providers and goods in the making of a building
• The student will identify the main methods of collecting data in sociological research and determine which is most appropriate for specific kinds of research questions
• The student will describe the central ideas of the founders of sociology, The student will describe how individuals are shaped through basic social processes of culture, socialization, micro-level social interaction, and organizational life. understanding of the concepts of utility, demand-supply, pricing, etc
• The student will explain what is meant by the social construction of crime and deviance and why this is key to understanding current issues concerning criminality, crime rates, prisons, and policing strategies
• The student will analyze the life of the body (gender, sexuality, ageing, disability, health) in terms of social processes and structures. The student will demonstrate critical thinking skills and formulate their ideas clearly in writing.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

To develop a conceptual understanding of Sociology and economics planning principles in the built environments

COURSE OVERVIEW:

To introduce the economics and sociological aspects of architecture.
Students will use the sociological imagination to see how features of their personal, everyday life are linked to ongoing processes of social organization and coordination
• The student will develop an understanding of the role of different services, service providers and goods in the making of a building
• The student will develop an understanding of the concepts of utility, demand supply, pricing, etc.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1	SOCIOLOGY	**Introduction to Sociology**--The Sociological Imagination • Introduction to Sociological Perspectives and Theories • Introduction to Sociological Research The Social and Cultural Dimensions of Human Experience • Culture • Socialization	5hrs 8hrs

ARCH 709: BUILDING SOCIOLOGY AND ECONOMICS

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 709	PC	AR	THEORY	BUILDING SOCIOLOGY AND ECONOMICS	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM; ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

	2	• The Mass Media Micro and Macro Approaches to the Organization of Social Life • Social Interaction	5hrs
	3	• Groups and Organizations • Families' Deviance, Gender, and the Human Body • Deviance and Crime • Genders and Sexualities • The Body-Disabilities, Aging, and Death •	
4	BUILDING ECONOMICS	**Introduction to building economics** • Ends – scarce means • Goods and services- natural goods, manmade goods • Producers- primary producers, secondary producers, tertiary producers • Economy in design	6hrs
5		• Macro & microeconomics analysis • Project Costing • Utility, demand & supply, wants, cost, value, and price in the building industry • Cost-benefit analysis	6hrs

SUGGESTED READINGS:

Amos Rappoport, House Form and Culture
Wallis, Wilson D and Willey, M.M, Textbook of Sociology, 1st ed., Khel Sahitya Kendra, New Delhi, 2001.
Charon, Joel M. The Meaning of Sociology, 6th ed., Prentice-Hall, New Jersey,1999.
Thio, Alex. Sociology: a brief introduction, 4th ed. Allyn and Bacon, Boston, 2000.
Schaefer, Richard T. Sociology: a
brief introduction, 4th ed. McGraw Hill, Boston,2002.
Bilton, Tony and Oth. Introductory Sociology, 3rd ed. Palgrave, New York, 1997.
Stone, P.A. Building Economy: Design Production and Organisation a synoptic view, 2nd ed., Pergamon Press, Oxford, 1976.
Koutsoyiannis, A. Modern Microeconomics, 2nd ed., ELBS with MacMillan Press,1994.
Nobbs, Jack and Hopkins, Ian. Economics: a core text, 4th ed. McGraw-Hill, London, 1995.
Teck, Hoon Hian and Oth. Economics: theory and applications, McGraw-Hill, Taiwan, 1998.
Dewett, K.K. Modern Economic Theory, Shyam Lal Charitable trust, New Delhi,2005.

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
SEMINAR									INT	EX		INT	EX				
ARCH718	SEC	SU	SEMINAR	SEMINAR II (RESEARCH IN ARCHITECTURE)			2	2					100		100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 718: SEMINAR II

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

- architectural communication is emphasized
- To inculcate the habit of reading books related to architecture and allied subjects in a structured manner. Course Content This course involves library-based study and report writing. The students are expected to read two or more books in a given subject area or by a particular author, as assigned by the faculty. They are expected to write critical essays, book reviews or research reports based on their readings. In addition, students are expected to follow academic writing and referencing conventions from the III Semester onwards.

COURSE OUTCOME:

At the end of the course, students will be able to –

- Learn about various approaches to research in the field of Architecture
- Explore various aspects related to research
- Develop a preliminary research proposal

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

- a seminar on what is architecture addressing as an introduction to it.

After completion of this course, the student will be able to:

1. Demonstrate the knowledge of research fundamentals, theories and their importance.
2. Make use of knowledge of various types of research and research methods to plan simple research. 3. Compare appropriate measuring and analytical techniques.
4. Select appropriate analytical tools for data analysis and representation.
5. Develop a mini research proposal and paper.

COURSE OVERVIEW:

Provides knowledge on a traditional art form, innovations in and influences on architecture and thinking process in design;

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1		• Introduce undergraduate students to contemporary architectural culture. • Introduce students to projection through scales. • Develop critical problem-solving skills based on architectural design methodologies. • Provide an introduction to the tools and materials associated with an architectural education. • Develop public speaking and presentation skills.	6hrs
2	Data collection and Analysis	• Exploration of various ideas, in the area of interests • Qualitative and Quantitative Research • Data collection – process and methods. • Analysis of data (Qualitative and	7 hrs.

ARCH 718: SEMINAR II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
					L	T	S	CREDIT	THEORY				STUDIO				
									2 -TERM EXAM 20%	TA 20%OR 50%	ESUE 40%OR 50%	TOTAL	TA 10%OR 50%	EV 10%OR 50%	TOTAL		
SEMINAR									INT	EX		INT	EX				
ARCH718	SEC	SU	SEMINAR	SEMINAR II (RESEARCH IN ARCHITECTURE)			2	2					100		100	100	

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		Quantitative)	
3	Report writing	• Lettering Styles. • Bibliography writing • Citation, etc. • Presentation technique	17 hrs.
4	Proposal Development	• Developing the subject proposal • Literature • Aim and Objective • Data Requirement	

NOTE:-
Evaluation: Stages: Proposal, Mid-Review and final submission of the paper.
Students' contribution to the topic/area is of critical importance.

SUGGESTED READINGS:

Hammon, Michal and Jerry wellington .2013. Research Method: The Key Concepts.NewYork: Routledge
Creswell, John W. 2009. Research Design: Qualitative, Quantitative and mixed methods Approaches. 1000 oaks,
Warburton, Nigel. 2006. The Basics of essay writing. New York: Routledge
Turabian, Kate L 2007. A manual for Writer of Research Papers, Thesis and Dissertation, Seventh Edition Chicago: University of Chicago Press.
Wehrli, Robert, Environmental Design Research: How to Do It and How to Apply It, New York, Wiley: 1986
Todd, Alden, Finding Facts Fast: How to Find Out What You Want and Need to Know, Berkeley, Ten Speed Press: 1979
Snyder, James, Architectural Research, New York, Van Nostrand Reinhold: 1984
Zeisel, John, Inquiry by Design: Tool for Environment-Behavior Research, Cambridge, Cambridge University Press: 1981
Sandhoff, Henry, Visual Research Methods in Design, Van Nostrand Reinhold: 1991

ARCG 719: ELECTIVE – VII

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2-TERM EXAM 20%	TA 20% OR 50%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCG719	SEC	SU	THEORY /STUDIO	ELECTIVE- VII (POOL III) /GENERIC			3	3	20	30	50	100	50		50	150	

L - THEORY, S- STUDIO, T -TUTORIAL, C - CREDIT, HRS HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCG 719: ELECTIVE – VII

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

7 Sem		ELECTIVE VII
	719.1	Disaster management

COURSE OBJECTIVES:

overall nurturing of the student with issues in practice and field outside

COURSE OUTCOME:

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

better grooming than just books and theories.

COURSE OVERVIEW:

The following is a representative list of Institute projects: Seminars, Tutorials/ additional classes for any course, Guest Lectures, and Workshops, which provides knowledge to support student being sensitive to design;

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1		The creative electives provide an opportunity to express talents that are different from architecture but related to imagination, visualization & creation. They offer hands-on experience of unique ingenuity & workmanship. The essence of a creative domain can be achieved by exploring different materials, techniques, and processes; developing creative products; finishing & presenting the product for the concepts that evolved. The outcome will be through portfolio & presentations. • As Per Pool Electives Choices Stage II odd semester pool	5 hrs @ each class

GUIDELINES

The topic of the project is to be displayed on the Institute Notice Board fifteen days in advance of the commencement of the classes

NOTE: Evaluation is to be done through viva voce, Portfolios after the university exam shall be retained at the Institute level for the viva–voice

COURSE OBJECTIVES:

In the face of climate change, the occurrence of natural disasters has become more frequent, influencing livelihoods and the existence of human civilization.

COURSE OUTCOME:

At the end of the course, students will be able to

- overall nurturing of the student with issues in practice and field outside better grooming than just books and theories.
- In this context, this course is designed to provide an overview of the occurrence, causes and consequences of disaster and an understanding of fundamental concepts and application of disaster-resilient design.

ARCG 719: ELECTIVE – VII

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCG719	SEC	SU	THEORY /STUDIO	ELECTIVE- VII (POOL III) /GENERIC			3	3	20	30	50	100	50		50	150	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS, MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

- The first module introduces the scenario of hazards caused due to natural disasters and provides a brief insight into disaster mitigation and management.

COURSE OVERVIEW:
Two modules cover the causes, impact and performance of structures, retrofitting and strengthening of existing structures both for cyclones and earthquakes exclusively. The other two modules deal with basic principles, simulation techniques, design considerations, adaptable building construction techniques, codes and practices separately for cyclone and earthquake-resilient buildings.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING G HOURS:
1		A brief introduction to different types of natural disasters, Occurrence of disasters in different climatic and geographical regions, hazard (earthquake and cyclone) map of the world and India, Regulations for disaster risk reduction, Post-disaster recovery and rehabilitation (socioeconomic consequences) - case studies.	8 hrs
2		Climate change and its impact on the tropical cyclone, Nature of cyclonic wind, velocities and pressure, Cyclone effects, Storm surge, Floods, and Landslides. The behaviour of structures in past cyclones and wind storms, case studies. Cyclonic retrofitting, strengthening of structures and adaptive sustainable reconstruction. Lifeline structures such as temporary cyclone shelters.	8 hrs
3		Basic wind engineering, the aerodynamics of bluff bodies, vortex shedding and associated unsteadiness along and across wind forces. Lab: Wind tunnel testing, its salient features. Introduction to Computational fluid dynamics. General planning/design considerations under wind storms & cyclones; Wind effects on buildings, towers, glass panels etc, & wind resistant features in the design. Codal Provisions, design wind speed, pressure coefficients; Coastal zoning regulation for construction & reconstruction phase in the coastal areas, innovative construction material & techniques, and traditional construction techniques in coastal areas.	8 hrs
4		Causes of the earthquake, plate tectonics, faults, seismic waves; magnitude, intensity, epicentre, energy release and ground motions. Earthquake effects – On the ground, soil rupture, liquefaction, landslides. Performance of ground and building in past earthquakes: Behaviour of various types of buildings, structures, and collapse patterns; Behaviour of Non-structural elements like services, fixtures, mountings-case studies. Seismic retrofitting- Weakness in existing buildings, ageing, concepts in repair, restoration and	8 hrs

ARCG 719: ELECTIVE – VII

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20% OR 30%	ESUE 40% OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/STUDIO									INT	EX		INT	EX				
ARCG719	SEC	SU	THEORY /STUDIO	ELECTIVE- VII (POOL III) /GENERIC			3	3	20	30	50	100	50		50	150	

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT; HRS HOURS, MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

	seismic strengthening.	
5	General Planning and design consideration; Building forms, horizontal and vertical eccentricities, mass and stiffness distribution, soft storey etc.; Seismic effects related to building configuration. Plan and vertical irregularities, redundancy and setbacks. Various Types and Construction details of Foundations, soil stabilization, retaining walls, plinth fill, flooring, walls, openings, roofs, terraces, parapets, boundary walls, under-ground - overhead tanks, staircases and isolation of structures; innovative construction material and techniques; Local practices: traditional regional responses; Computational investigation techniques.	**8 hrs**

SUGGESTED READINGS:

Abbott, L. P. (2013). Natural disasters. 9th Ed. McGraw-Hill.
Aga Khan Award for Architecture. Ed. Shelter. (1996).
The Access to Hope. AKDN,
Istanbul and Geneva. Agarwal, P. and Shrikhande, M. (2009). Earthquake Resistant Design of Structures. New Delhi: PHI Learning.
Alcantara, A. I. and Goudie, A. (2010). Geomorphological Hazards and Disaster Prevention. Cambridge: CUP.
Bankoff, G., Frerks, G. and Hilhorst, D. (2004). Mapping Vulnerability: Disasters, Development and People. London: Earthscan.
Burby, R. J. (1998). Cooperating with Nature. Confronting Natural Hazards with Land-Use Planning for Sustainable Communities. Washington: Joseph Henry Press. Christopher, A. and Reitherman, R. (1982). Building configuration and Seismic Design. John Wiley & Sons Inc.
Dutta, S. C. and Mukhopadhyay, P. (2012). Improving Earthquakes and Cyclone Resistance of Structures: Guidelines for the Indian Subcontinent. TERI.
Dyrbye, C. D., Dyrbye, C. and Dyrbye, C. (1997). Wind Loads on Structures. John Wiley.
Foote, K. (2003). Shadowed Ground: How Americans deal with Places of Tragedy. Austin: the University of Texas Press.
Holmes, J. D. (2007). Wind Loading of Structures. 2nd Ed. Taylor & Francis. ICIMOD. (2007). Disaster Preparedness for Natural Hazards: Current Status in India. Kathmandu: ICIMOD. Judy, L. B. (2012). Climate change, Disaster Risk and the urban poor – cities building resilience for a changing world. Washington DC: The World Bank. Lee, B. Ed. (2008). Hazards and the Built Environment: Attaining Built-In Resilience. Oxon: Taylor and Francis. McDonald, R. (2003). Introduction to Natural and Man-made Disasters and their Effects on Buildings. Burlington: Architectural Press. Oxford University Press. (2000). Confronting Catastrophe: New Perspectives on Natural Disasters. London: OUP.
Singh, P. P. and Sharma, S. (2006). A modern dictionary of natural disasters. Deep & Deep Publications.
Smith, B. S. and Coull, A. (2001). Tall Building Structures: Analysis and Design. Willey– Inderscience.
Simiu E. and Scanlan R. H. (1996). Wind Effects on Structures-Fundamentals and Applications to Design. 3rd Edn., John Wiley.
Sinha, P. C. (2006). Disaster Mitigation, preparedness, recovery and Response. New Delhi: SBS Publishers.
Talwar, A. K. and Juneja, S. (2009). Cyclone Disaster Management. Commonwealth Publishers. Taranath, B. S. (2004). Wind and Earthquake Resistant Buildings: Structural Analysis and Design. CRC Press.
Thomas, F. (2013). Designing to avoid disaster: The Nature of Fracture-Critical Design. London: Routledge. Pelling, M. (2003). The Vulnerability of Cities: Social Resilience & Natural Disaster. London: Earthscan.
U.N.D.P. (2004). Reducing Disaster Risk: A Challenge for Development. New York: UNDP.
World Bank. (2009). Handbook for Reconstructing after Natural Disasters.