



AMITY UNIVERSITY

— UTTAR PRADESH —

Course Title: Building Construction – I
Course Code: ARCH143
Credit Units: 2
Level: UG

L	T	P/S	SW / FW	TOTAL CREDIT UNITS
1	0	2	-	2

#	Course Title	Weightage (%)
	BUILDING CONSTRUCTION - I	
1	Course Objectives: Introduction to basic building materials used in construction, their properties, types and common usage. Introduction to basic construction technology in typical built structures.	
2	Prerequisites: NIL	
3	Student Learning Outcomes: To comprehend the basic principles and appropriate application and performance of construction materials, products, components, and assemblies, including their environmental impact and reuse	
Course Contents / Syllabus:		
4	Module I: Introduction Introduction and overview of basic building materials including brick, stone, wood and metal. Mortar composition and types with a focus on the Construction yard and hands –on experience of building materials.	15
5	Module II: Building unit – Brick BRICK: Composition, Sizes, Properties and Classification of bricks, Tests for bricks. Introduction of Brickworks: masonry bonding & ornamental	20

	bonding. Types of bricks: Mud, clay, Fire-Ash, Cement concrete, hollow, etc. Mortar compatibility, workability, availability.																															
6	Module III: Building unit - Stone	15																														
	Classification of stones. Common building stones used in India. Characteristics and use of stones. Dressing of stone. Artificial stones. Introduction of Stonework: Rubble and Ashlars masonry.																															
7	Module IV: Building unit – Mortar	15																														
	MORTAR: Types of mortar – lime mortar, mud mortar, lime-surkhi mortar, cement mortar. Different grades of mortar, their compositions and properties. Preparation of cement mortar. Use and selection of mortar for different construction work. LIME: Classification of lime, properties and use. CEMENT: Composition of ordinary cement. Function of cement ingredients. Properties, grades, usage of cement SAND: Sources of Sand, Classification, Test of Sand. Grades of sand and their uses																															
8	Module V: Building unit – Concrete	10																														
	PLAIN CEMENT CONCRETE: Compositions and grades of concrete. Various steps in concrete construction – batching, mixing, transporting, compacting, curing, shuttering, jointing. Tests and quality control of concrete. Design Mix of concrete.																															
9	Module VI: Applications	25																														
	Application of building materials to a typical building section, from foundation to roof.																															
10	Pedagogy for Course Delivery: The course will be delivered by means of lectures, group presentation, market visit, site visit. Conduction of practical exercises in construction yard. The students would be familiarised with glossary of vernacular terminology as prevalent in this part of the country.																															
11	Assessment/ Examination Scheme:																															
	<table border="1"> <thead> <tr> <th>Theory (%)</th> <th colspan="3">Lab/Practical/Studio (%)</th> <th colspan="2">Total</th> </tr> </thead> <tbody> <tr> <td>50</td> <td colspan="3">50</td> <td colspan="2">100%</td> </tr> <tr> <td colspan="6" style="text-align: center;">Theory Assessment L/T</td> </tr> <tr> <th>Components (Drop down)</th> <th>A</th> <th>C</th> <th>PR</th> <th>H</th> <th>EE</th> </tr> <tr> <td>Weightage (%)</td> <td>05</td> <td>15</td> <td>10</td> <td>20</td> <td>50</td> </tr> </tbody> </table>	Theory (%)	Lab/Practical/Studio (%)			Total		50	50			100%		Theory Assessment L/T						Components (Drop down)	A	C	PR	H	EE	Weightage (%)	05	15	10	20	50	
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Lab/Practical/Studio Assessment					
Components (Drop down)	A	CT	P	S	VV
Weightage (%)	05	15	10	20	50
A- Attendance, C – Class Test, PR – Presentation, H – Home Assignment, CT – Class Test (Practical Based), S – Studio Work, VV – Viva Voice, EE – External Examination					

Text & References:

Text:

- Illustrated Building Construction by Francis.D.K.Ching
- Building Construction, Materials by M.V. Naik
- Structure in Architecture, Salvadori and Heller
- Building Construction & Materials, S.C. Rangwala
- A text book of Building Construction, B.C. Punmia
- Building Materials & Construction, Shushil Kumar.

References:

- Building Construction, Mackay WB Vol. 1-4
- Construction Technology, Chudley Vol. 1-6